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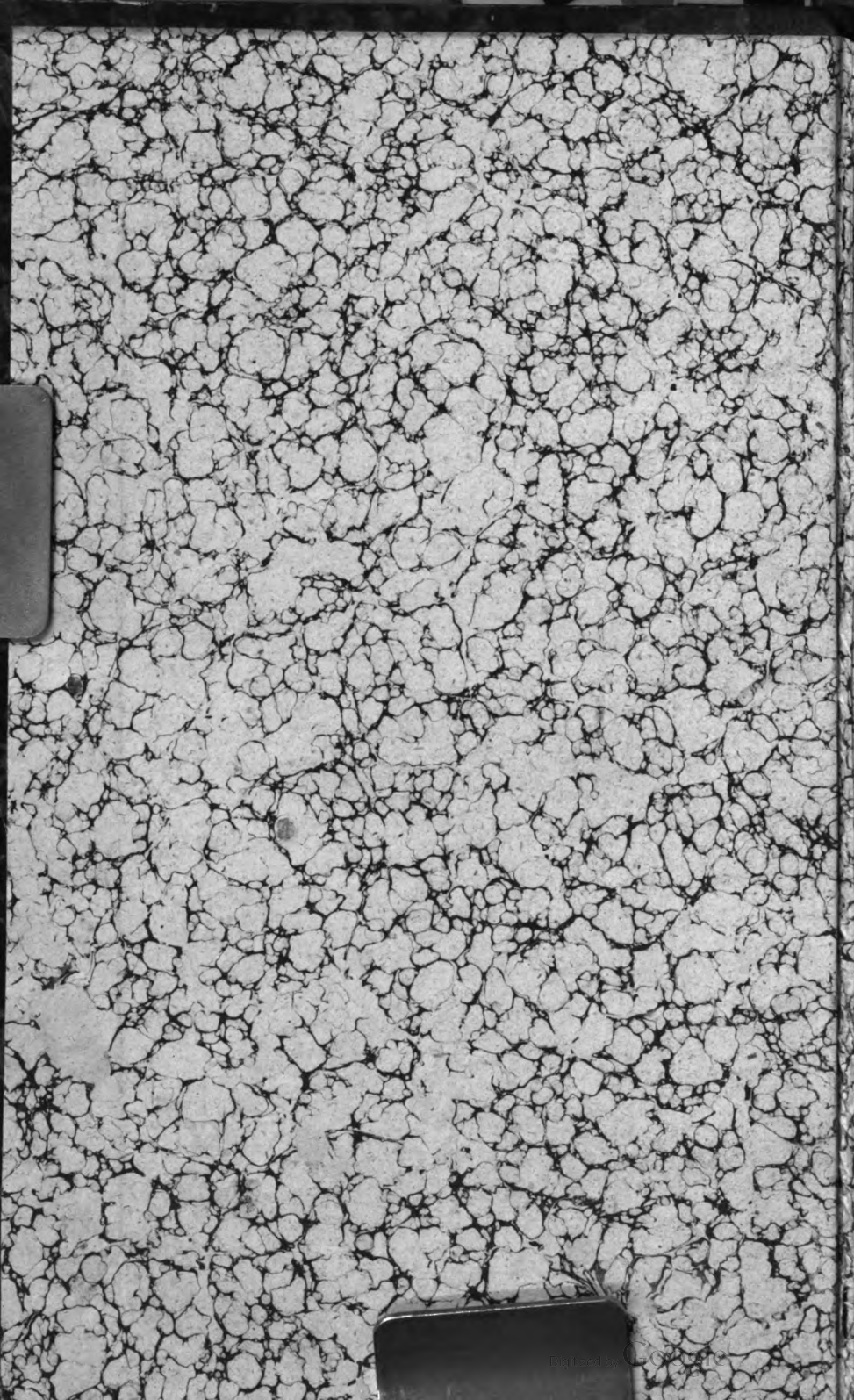
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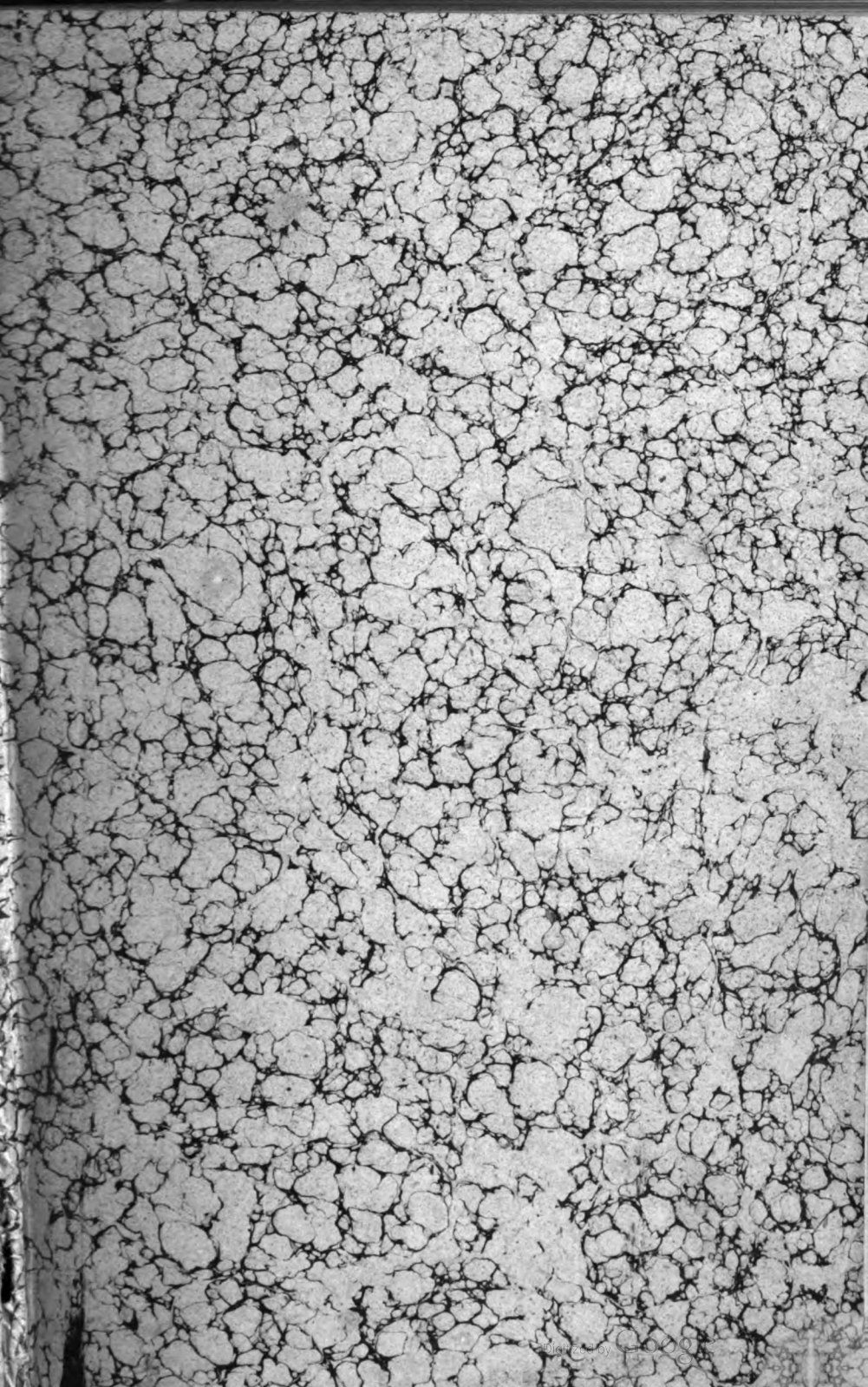














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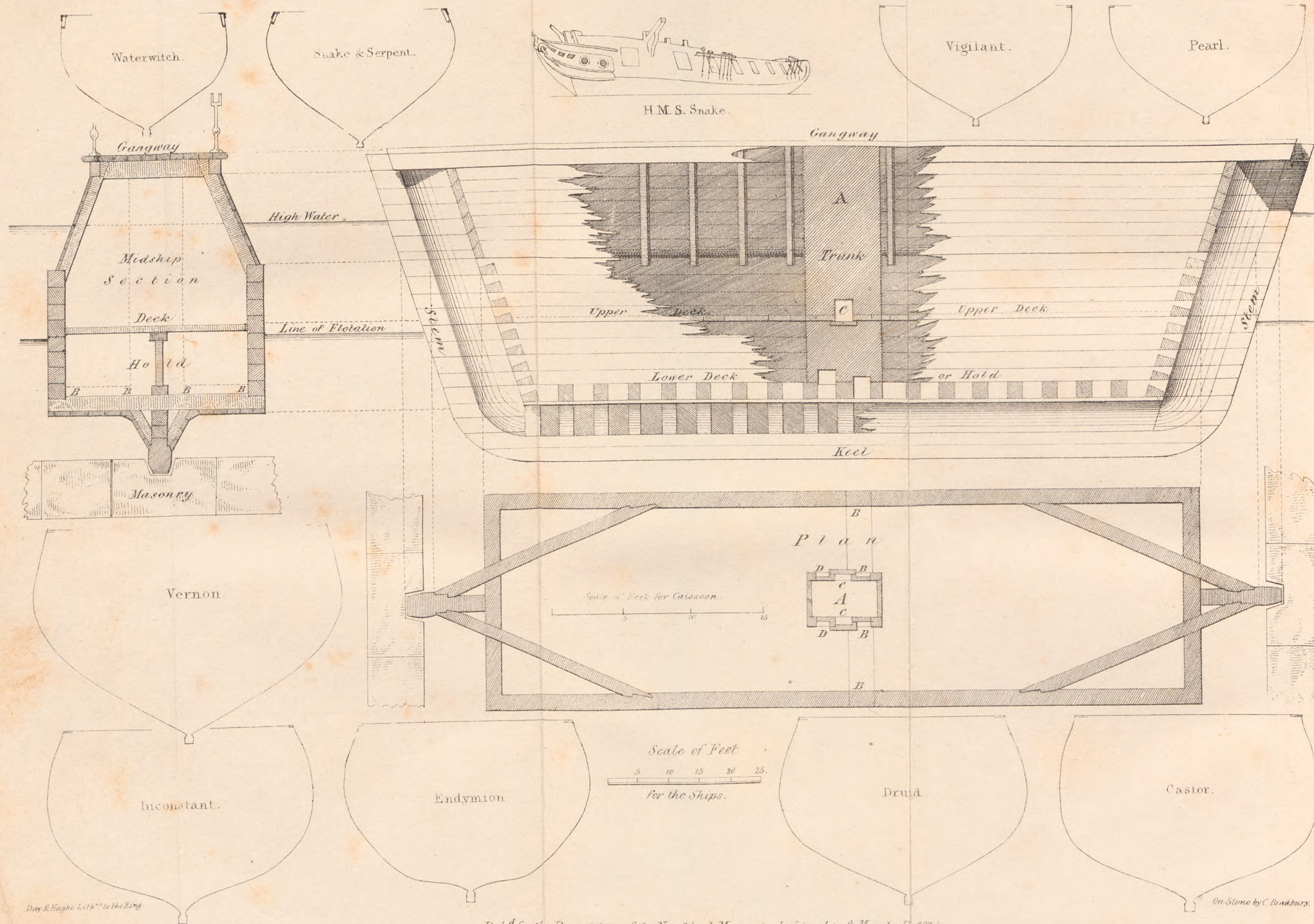




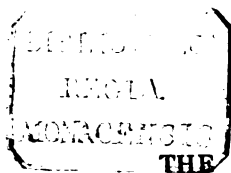












# NAUTICAL MAGAZINE.

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JANUARY, 1835.

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## HYDROGRAPHY.

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"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

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### 1. ISLE GRANDE, *South Atlantic Ocean.*

Extract of a letter from Captain A. Haig, of the *Sir John Rae* Reid, in lat.  $19^{\circ}$  S, long.  $31^{\circ}$  W. :—

"On the 5th instant, we discovered an island in lat.  $46^{\circ} 40'$  S., and long.  $48^{\circ} 35'$  W. It was first seen about 4 P.M., bearing N.W., about four leagues distant. I hauled up a couple of points, to get a better view of it, but night coming on, and a hard gale blowing, I regret to say I was prevented from surveying it so accurately as I could have wished. At first we thought it an ice island, but on a nearer view all hands were convinced of its being a rocky islet, elevated about one thousand feet above the level of the sea. A detached black rock was seen to the eastward of it. The nearest land to this that I have heard of is Isle Grande, differing very much both in latitude and longitude. There is still a possibility of our having been deceived by an ice island; but the numerous birds we were surrounded by during the forenoon argues strongly in favour of land, more especially as shags and divers were seen, a species of bird that is only met with where the land is near. The position of Isle Grande is said to be very doubtful."—*Times*.

That the island named Isle Grande, by La Roche, in 1675, has ever since that time remained absolutely unknown, throws some degree of interest on the foregoing report of Captain Haig. As there are also several reasons for supposing it was an island, and no iceberg, that was seen by this gentleman, the present seems to be a favourable opportunity for considering the subject of La Roche's long-questioned discovery.

On the first glance over the materials we have collected, belonging to the subject, the most striking feature that presents itself is the vast extent of surface over which birds, pieces of wood, branches of trees, seaweed, feathers, spawn, and an unusual quantity of



whales, have been seen by various navigators; and it is equally worthy of observation, that this extent of the ocean, which amounts to about seven hundred miles, is greatest in one direction, namely, about north-east and south-west, *that of the prevailing wind and current.*

Isle Grande is laid down in the following meridians on the charts, in the parallel of  $45^{\circ}$ , namely,  $35^{\circ} 30'$ ,  $38^{\circ} 30'$ , and  $46^{\circ} 30' W.$ ; the last according to Dalrymple, who appears to have had some strong reason for differing so much as ten degrees from the first, which is the longitude assigned to it by Captain Cook. From conclusions so widely apart as these, we may safely infer that the data on which they rest must be of a slender kind.

Considering the materials before us in the order of their date, the first we come to is the account of a search for it by the unfortunate La Perouse. This celebrated navigator reached the parallel of  $44^{\circ} 38' S.$ , in  $34^{\circ} W.$ , on the 7th of Sept. 1785; between which time and the 27th December following he beat to *windward*, between the latitudes of  $44^{\circ}$  and  $45^{\circ}$ , till he reached the longitude of  $49^{\circ} W.$  Perouse seems to have gladly given up his search, (although disappointed,) and, while he states his conviction that the island does not exist in the part he had traversed over, he considers that the search for it should not be abandoned. He says—“We passed seaweed, and were for many days surrounded by birds.” But, although Perouse did not find Isle Grande, he did much to forward its discovery, by proving that it does not exist in the latitude so perseveringly assigned to it by those who have considered the question of its position; and it is rather surprising that it should still have remained on the charts in the parallel of  $45^{\circ}$ .

Colnett, in March, 1793, passed the eastern limits of the supposed position of Isle Grande, and in lat.  $40^{\circ} 12' S.$ , long.  $34^{\circ} 8' W.$ , he found the sea covered with feathers, birch twigs, driftwood, and seaweed. Passing to the southward the same day, many birds and whales were seen; indeed so many of the latter, that one was pursued by his boats, and he remarks, that “the number of whales in sight presented a fair opportunity of making a profitable voyage in the article of black oil; but my predominant object,” he adds, “was, to fulfil the particular services recommended to me by the Lords of the Admiralty.” The number of birds seen by him must have been very great, when he says, “Had they all been on the wing together, and above us, instead of rising in alternate flocks, and skimming after the whales, the atmosphere must have been altogether darkened by them.” Colnett had imbibed the opinion of Cook, and expected to have seen the island in the position assigned to it by the “father of circumnavigators,” and with this motive he stood to the southward, with the wind fresh from W.N.W. In his way he met with many birds, and much sea-



weed, till reaching the parallel of  $45^{\circ}$ , when the whole *gradually disappeared*; and Colnett continued his voyage to the Pacific, in the hopes of being more successful on his return. This, however, was not the case; and he had no opportunity of doing more towards the discovery of its position. Colnett sounded occasionally, without success, with two hundred fathoms of line.

Vancouver also appears to have inclined to the opinion of Cook in the position of Isle Grande, and broadly states, that, "if such land has any existence, it will be found not very far remote from the situation assigned to it by Captain Cook; a fact," he says, "I was very desirous of establishing." Vancouver was unsuccessful; but, although he did not establish it in Cook's position, he ascertained that it was not in that assigned to it by Dalrymple.

But more light seems to have been thrown on the supposed position of this island by modern navigators; and among them, Captain Andrew Livingstone has certainly done more towards its re-discovery than any other. Indeed, the solicitude with which this gentleman has gone into the question, and the anxiety he has evinced for the safety of navigators, by his endeavours to remove the veil of obscurity by which it has been so long concealed, are highly creditable to him. In the month of June, 1824, Captain Livingstone, on his way into the Pacific, entered the questionable limits of the neighbourhood of Isle Grande; and, aware of the importance of his remarks, noted them down carefully. In the lat.  $43^{\circ}$  S., and long.  $45^{\circ} 30'$  W. he observed an immense number of birds, which, as he continued to the south-west, do not appear to have followed him. But, on the 7th of the same month, we find him at noon passing within about twenty miles of the position of the island reported by Captain Haig, *without making any such discovery*.

On his return from the Pacific, in September, 1825, we find rock-weed noted by Captain Livingstone a short distance to the southward of the same position in which he saw it on his way out; and on the 10th of that month, in about  $45^{\circ} 40'$  S. and  $42^{\circ} 30'$  W., the remarkable circumstance is mentioned by him of a lark flying on board his ship. Captain Livingstone for some time preserved his refugee with a romantic kind of superstition, as a sure pledge, that so frail and delicate a little thing must have come from land at no great distance from him.

Not only has Captain Livingstone supplied us with his own observations, but he has collected much information from other navigators on the important subject before us. We learn from him that brushwood was seen by the brig Inca, in the latitude of  $43^{\circ} 30'$  S. and long.  $43^{\circ}$  W., and that in  $44^{\circ} 45'$  S. and long.  $43^{\circ} 30'$  W. land is said to have been seen by the Salacia. The brushwood seen by Mr. Lincoln, in the Inca, appeared to have been some days in the water, and might have drifted from the south-west, the



direction in the position of which Haig's Island was seen. The position of the brig Salacia from the Pacific was calculated by Captain Livingstone, and is in a S.S.W. direction from the position of the Inca, and between it and that of Haig's Island. And we should also have observed, that on the same day on which Captain Livingstone caught the lark, other land-birds were seen, besides much rock-weed and tangle, all of which gradually disappeared as he proceeded to the northward.

With the foregoing data, we have to consider the position of the island reported by Captain Haig. That an island does exist somewhere about these parts, there would seem to be good reason for supposing, or from whence can come all these indications\* of land that have been so frequently seen. And, allowing that an island does exist there, unknown, and concealed from the destroyer man, it may easily be supposed to afford ample and secure retreat for the numerous birds that have been seen thereabouts. But the probable position of it is the important point; and this involves all that we have had before us.

We had got thus far in our investigation of the position of this island, when we found in the British Museum the work to which Dalrymple refers, as his authority for the actual existence of it. The title of it runs thus:—"Descripcion Geographica, y Derrotero de la Region Austral Magallanica. Que le dirige, &c. Año de 1690. Compuesto por el Capitan Don Francisco Seixa y Lovera, &c."

Now, Isle Grande has long been a kind of a bugbear to seamen, and we shall therefore give at length the following authority, on which it rests:—

#### TITULO XIX.

*Del Describrimiento que Antonio de la Rochè hizo de otro nuevo passage de el Mar Norte al Mar de el Sur.*

"Assi como accidentalmente hallò Enri-que Brovers su nuevo passage, para Navegar libremente los Mares del Norte, y del Sur, por el oriente de la Tierra de los Estados de Olanda, assi tambien Antonio de la Rochè y sus compañeros encontraron otro passage el año 1675, mas al oriente la tierra que Brovers avia descubierto antes por la parte oriental de su passage el año de 1643; la qual segun la descripcion de la Rochè secretamente impressa en Londres en 12 pliegos enquadernados en quarto, el año de 1678, y en idioma

#### ART. XIX.

*Of the Discovery which Antonio de la Rochè made of another new passage from the Atlantic to the South Sea.*

"In the same manner as Henry Brovers accidentally found his new passage, by which to pass freely from the Atlantic to the Pacific Ocean, by the east of Staten Land; so also did Antonio de la Rochè, and his companions, discover another passage in the year 1675, further to the east of the land which Brovers had discovered before in the eastern part of his passage in the year 1643; which, according to the description of La Rochè, secretly printed in London in twelve sheets, quarto, in the year 1678, and,

\* The Falkland Islands are not wooded, to allow of the supposition that the branches can be from them.



Frances, dize,—‘Que la dicha tierra es vna isla, y que azia la parte del sueste, y del sur avia otra tierra apartada, á lo menos mas de 10 leguas de la dicha ultima tierra, por junto adõde salieron para el Mar del Norte, por su costa oriental, que dizen que corre nordeste sudueste, para oeste, y á su parecer debaxo de el meridiano de 328 grados, quedando assimismo debajo del de 330 la costa de la tierra q̃ vieron al sueste, y sur, lo qual assi parece verisimil de las demostraciones de los mapas generales que desde 50 à 55 grados ponen la costa austral de la Tierra Incognita, empeçando desde la alura de 45 grados norte sur, cõ el cabo de Buena Esperanza, decayendo la costa hasta la Aumentacion de los dichos 55 grados azia el polo Antartico, pareciendo assi mismo que esto es assi de un mapa general q̃ la Compañia Oriental de los Estados de Olanda tiene en su Almacén, y casa de dicha Compañia, en la ciudad de Amsterdam, de Olanda.

“La ocasion de averse accidentalmente descubierto el dicho passage del Mar del Sur al Mar del Norte, fue porque avieniendo armada (como otras muchas vezes) en Amsterdã, de Olada, vna Nao de 400 toneladas, y vna valadra de 80 toneladas, cõ sus cargaciones para cõ ellas ir à comerciar en las costas del Mar de el Sur, por cuenta de diferentes Olandeses, y Ingleses q̃ las cargarõ en la dicha ciudad, y en la Baia de la de Cadiz el año de 1671 los dichos bageles. Despues de aver salido de dicha Baia, y hecho escala en las islas de Canaria, y en el Rio de Gambia de la costa de Guinea, passaron por el passage del Mayre al Mar del Sur adonde vendieron sus haziendas en diversas partes de sus costas, y especialmente en las de Guayaquil, y del Realejo, adonde iban dirigidas desde Europa. De cuyo viage aviendo buuelto dicho navio y valandra a la ciudad de Rotterdam, de Olanda, cargadas de muchas riquezas, vn ayudante de piloto, y otro Mozo Frances passaron a la ciudad de Cadiz el año de 1673, despues de aver buuelto

in the French language, says,—‘That the said land is an island, and that towards the south-east and south part, there was other land, separated from it at least as much as ten leagues, close to which they sailed into the Atlantic, by its eastern coast, which they say runs north-east and south-west, westerly; and that it appeared to be under the meridian of 328°, and that the coast they saw to the south-east and south was under that of 330°. This appears similar to what is shewn by the general maps, which, from 50 to 55 degrees, place the southern coast of the tierra incognita commencing in latitude 45 degrees due south of the Cape of Good Hope, the coast continuing to extend towards the Antarctic pole as far as the said 55°. This, also, likewise appears, according to a general map which the Dutch East India Company have in their establishment in the city of Amsterdam, in Holland.

“The occasion of the said passage from the Atlantic to the Pacific Ocean being accidentally discovered, was in consequence of a ship of 400 tons, and a cutter of 80 tons, being fitted out at Amsterdam, as many others had been, with cargoes of merchandise, for the purposes of trading on the coasts of the Pacific, on account of some Dutch and English merchants. They were laden in the above city, and in the bay of Cadiz, in 1671. Having sailed from this bay, and touched at the Canary Islands, and the Gambia, on the coast of Guinea, they passed through the Strait of Le Maire to the South Sea. They disposed of their cargoes at various parts of the coast, and particularly at Guayaquil and Realejo, where they were bound to from Europe. The said ships having returned from their voyage to the city of Rotterdam, laden with much riches, an assistant of the pilot, and a young Frenchman, went over to Cadiz in the year 1673, after this return with the



del dicho viage de los dichos bageles en que fueron al Sur.

Estos hablando en dicha ciudad de Cadiz, con Antonio de la Rochè, Mercader Inglés, (aunque hijo de Padre Francès y nacido en Londres,) le refirieron el gran vtil que se les siguió a los que hizieron dicho viage en dicho navio y valandran, y su seguridad, que fueron causa estas noticias para que el dicho Rochè detuviese con ofertas a los dichos dos nombres Pilote y Frances, para hazer otro viage semejante. Por cuya causa, concluyendo sus dependencias passó con ellos a la ciudad de Londres el dicho año, y desde ella a la ciudad de Amburgo a donde armaron vn vagel de 350 toneladas y con el una valandra de 50 toneladas que cargaron, llevando en dichas dos embarcaciones 56 hombres, con que llegaron el año de 1674 por el mes de Mayo a la isla de Tenerife vna de las Canarias, a donde compraron vino, aguardiente, y otras cosas necesarias para su viage del Mar del Sur, haziendole enderechura tan prosperamente, que dize el dicho derrotero que aviendo salido a 5 de Julio de la dicha isla passaron el passage de Mayre el dia 18 de Septiembre del dicho año, y inmediatamente a las costas del Peru en las quales aviendo vendido poco de lo que llevaron, se bolvieron a carenar sus dos embarcaciones, y a refrescar su gente en la costa de la Isla de Chiloe, a donde refieren que tuvieron forma de adquirir todo genero de bastimentos para bolverse a Europa: y que solicitando salir por dicho Passage del Mayre el año, y mes de Abril de 1675, no lo pudieron conseguir, por averlos llevado los vientos, y corrientes tan al oriẽ te, que quãdo entendierõ poder bolverse azia las tierras del Estrecho de Magallanes, no pudieron, ni tampoco atracarse con la tierra de los estados de Olanda, para salir al Mar del Norte, por el otro passage de Brovers, que refiere vieron con notable descõsuelo, por no poderlo coger, y ver, que siendo ya muy entrado el dicho mes de Abril, y el principio de Invierno en aquellas partes, seria mucho

said vessels in which they went to the Pacific.

“These persons, while in the said city of Cadiz, in conversation with Antonio de la Rochè, an English merchant, (although the son of a Frenchman, and born in London,) related to him their great success, and the prosperous voyage it had been to all those in the said ships. This intelligence determined La Rochè to make these two an offer to undertake another similar voyage. For this purpose, finishing his business, he went to London with them the same year, and from thence to Hamburg, where they fitted out a vessel of 350 tons, and with her a cutter of 50 tons, which they loaded, taking in both vessels fifty-six men. In the month of May, 1674, they arrived at Tenerife, one of the Canaries, where they purchased wine, spirits, and other necessaries for their voyage to the Pacific. This they performed so prosperously that their journal says, that, having sailed from Tenerife on the 5th of July, they passed the Strait of Le Mayre on the 18th September of the same year, and immediately to the coast of Peru. Having sold there little of what they took out, they returned, to refit their vessels, and to recruit the health of their people at the island of Chiloe, in Chili, where they took care to supply themselves with all kinds of provisions for their return. Being desirous of returning through the said Strait of Le Mayre in the month of April, 1675, they were unable to do so, in consequence of being driven by the winds and currents so far to the east, that, when they endeavoured to get in with the land about the Strait of Magellan, they could not; nor could they gain Staten Land, in order to pass into the Atlantic by Brover's passage, which, as they relate, they saw with much discomfort, from not being able to reach it, and yet to see it. It being then well on in April, the commencement of winter in those parts, it would be well for them if they escaped with



escapar con las vidas, mayormente no teniendo conocimiento, ni noticias de la tierra que nuevamente iba viendo azia el oriente, la qual reconociendo, y haziendo diligēcia para arrimarse a ella, hallaron una ensenada, en que dieron fondo junto a vn cabo, ò punta, que se tiende para el sueste con 28, 30, y 40 brazas de fondo de arena y piedra, en cuyo sitio estando à vista de vnas montañas de Nieve, junto a la propria costa. Con muchas tempestades, hizieron alli mansion de catorce dias, al cabo de los quales aviēdo el tiempo clareado, reconocieron que estavan en el fin de aquella tierra junto adonde dieron fondo, y vieron que por la parte del sueste, y del sur se via otra tierra alta, cubierta de nieve; la qual dexando y entrandoles el viento por el sudueste lentamente, rebassaron como pudieron y salieron à la vista de la dicha costa de la isla que dexaron por la parte occidental, viendo la dicha tierra austral por las dichas partes, pareciendoles, que de vna a otra abria las dichas 10 leguas, poco mas ò menos, y que las corrientes eran grandes para el nordeste, se hallarōn en el Mar del Norte en el intermedio de tres ampolletas, desenbocados del dicho passage, q̄ dicen es muy breve, por ser poca la tierra que parece comprehender la dicha nueva isla. La qual dexando y navegando despues un dia entero para la buelta del norueste, les entro despues el sur tan tormentoso y fuerte, que navegarō otros tres dias a la buelta del norte hasta descaer en la altura de 46 grados; en la qual pareciendoles estār ya assegurados, refieren, que viniendo en busca de la Baia de todos Santos; hallarō en la altura de 45 grados vna isla muy Grande, y amena con vn buen Puerto azia la parte oriental, en que hallaron agua, leña, y pescado, no viendo en aquella costa gente alguna, no obstante aver estado alli seis dias, al fin de los quales, passaron à la Baia de todos Santos, en la costa de Brazil, y desde ella a la ciudad de la Rochēla, en la costa de Francia, a donde llegaron a 29 del mes de Septiembre del dicho año,

their lives, particularly being ignorant of the coast, and having no account of the new land they continued seeing to the east. But, examining it, and making the utmost efforts to approach it, they found a bay, in which they anchored, close to a cape or point, (extending to the south-east,) in 28, 30, and 40 fathoms of water, sand and stones. In this situation, they saw mountains covered with snow, close to the coast. With much bad weather, they remained there fourteen days, at the expiration of which, the weather having cleared up, they found they were at the extremity of that land where they had anchored, and saw to the south-east and south of them other high land, also covered with snow. With a light southerly wind, leaving their anchorage, having lightened their vessel as well as they could, they lost sight of the said coast of the island, which they left on its western side, and saw the said land to the south, by the same side, appearing to be about ten leagues from that which they left, rather more or less. The current running strongly to the north-east, they found themselves in the Atlantic Ocean, in the course of two or three glasses, having passed through the said passage, which they say is very short, in consequence of the land forming it being small, (which appears to form the said new island.) Leaving this, and standing a whole day to the north-west, they were overtaken by southerly gales, so strong that they were driven three days to the north, as far as the latitude of 46°. In this parallel, they say that they had assured themselves of being making for Bahia, when they found a very large island in the latitude of 45°. They entered a good port, towards the eastern part of the island, where they found water, fuel, and fish, but saw no inhabitants, although they remained there for the space of six days. At the expiration of this time, they departed for Bahia, on the coast of Brazil, and from thence to Rochelle, on the coast of France, where they arrived on the 29th Sept.



pareciendo que es verdad lo que refieren algunos, que azia el oriente del Passage del Mayre ay muchas islas, y assi se vè que à lo menos ay la de Rochè, porque Pierre Dubal, Geographico Parisiense, pone la dicha isla en la latitud que hemos dicho; y asi se vè en sus emisferios planos con demostracion de otra tierra azia el polo Antartico, que aunque son de estrangeros, se les deve dar credito en este caso, por concordar uniformemente con otros.

of the same year. It appears to be true, what is related by some, that, towards the east of the Strait of Le Maire, there are many islands; and thus, it seems at least, there is that of La Rochè, for Peter Dubal, a Parisian geographer, places the said island in the latitude we have mentioned; and, also, in his plane hemispheres, is laid down more land towards the south pole, which, although they are foreign, should in this case receive credit to be in accordance with others.

Having laid the foregoing before our readers, with a hasty translation, we shall leave them to their own conclusions respecting the existence of Isle Grande. For our own part, we are at a loss to imagine on what pretensions the island could have been laid down in the chart, more particularly, when it is known that icebergs are so prevalent at certain seasons of the year in that part of the ocean. The only thing certain is the derivation of the name, ISLE GRANDE, signifying a very large island; all the rest is conjecture.

We were favoured with a sketch of the appearance of the island alluded to in the letter from Captain Haig, made by a gentleman who was a passenger in his ship; and, although we have no doubt that it was nothing more than an ice island, it may assist others in forming their judgment respecting these deceptive floating masses.



Captain Haig's letter we believe was dated in March, and the circumstance of icebergs being met with by H.M.S. Pylades, under the command of Captain Blanckley, on the 6th of March, in lat.  $37^{\circ}$  S. and long.  $47\frac{1}{2}^{\circ}$  W., corroborates our opinion, that this was nothing more than one of them. It was reported, we believe, that there were more icebergs than usual in the South Atlantic at that time, and that they extended further north than where they are commonly found.



## ORIGINAL PAPERS.

## I.—THE CAISSOON.

THE drawing at the commencement of our number represents the elevation, plan, and section of a Caissoon, or Floating-Gate, upon a new construction, lately built in His Majesty's dockyard at Sheerness, under the superintendence of Mr. James Mitchell, civil engineer at that port.

Caissoons, an evident corruption of the French word *caissons*, were introduced into this country from France by General Bentham, in 1801, and first used at the entrance of the basin at Portsmouth dockyard. They are hollow vessels, made to float or sink at pleasure, built usually of wood, or sometimes of wicker-work, and may be classed under two heads, viz. the one made use of as a substitute for flood-gates; the other, a hollow square, used in laying the foundation of breakwaters, sea-walls, &c., as at Cherbourg and Sheerness, where they obviate the necessity of coffer-dams.

\* It has been usual hitherto to build them in the form of a vessel, stem and stern alike, and much in the manner of ship-building, namely, placing the timbers or ribs vertically, and the planking horizontally—not observing that the pressure of the water acts very differently in the two cases: in a ship, the tendency to collapse is overcome by beams, decks, &c., by which means each side supports the other; but, in the case of a flood-gate, the strain or pressure being wholly on one side, it can receive no support from the opposite but must depend entirely upon the strength and arrangement of the material of which it is composed; it has to perform the office of a vertical arch or bridge, its supports or abutments being on the stems of the vessel in the grooves of the wall; and consequently the principal timbers should stretch horizontally from stem to stem. In building flood-gates, this is now always done;† why not then in caissoons?

Again, the stems of caissoons on the present construction, instead of being a main piece of the vessel, are simply bolted on to the dead-wood, the insufficiency of which is evident, and its weakness shewn by the caulking always working out of the joint or seam.

In the caisson of Mr. Mitchell these defects are remedied, and other improvements introduced, which make it more simple,

\* It is the former of these we propose more fully to describe, and which it has been, &c.

† The fatal result of the former weak and fallacious mode of building was made too manifest at Portsmouth, in the melancholy accident at the launch of the Princess Charlotte, 110 (7) gun ship.



less liable to get out of order, and at a great saving of expense. A reference to the drawing will shew more clearly its construction.

**A**—Is a trunk, or compartment, about five feet square, in the middle of the caisson, extending vertically from the gangway to the upper deck.

**B B**—A trunk or scupper, about one foot in diameter, commencing with the trunk **A**, and leading through the vessel on both sides, having the valves **BB**, which open the communication between the sea and the basin, as also between the sea and the caisson, at pleasure.

**C C**—Valves communicating with the upper deck and trunk *a*.

**DD**—Valves communicating with the lower deck, or hold, and trunk **A**.

When the caisson is at rest, the valve **B**, on the side next the sea, as also the valve **C** and **D**, are left open, for the tide to ebb and flow in the caisson.

To prepare for raising the caisson, the valve **D** must be shut at low-tide, to keep the water out of the hold; and the valve **C**, to retain the water in the upper deck as ballast, till the time arrives for raising the caisson, when, by opening the valve **C**, the water runs off from the upper deck through the scupper **BB** into the sea; the caisson then rises, and is moved as easily as a boat wherever may be wished.

When it may be necessary to replace the caisson, the valve **D** is opened, to allow the water to flow into the hold, when it immediately sinks.

Caissons have hitherto been chiefly, if not solely, used as flood-gates between the sea and basin, where great strength is required; it is proposed also to substitute them for dock-gates: they would be equally efficient in all cases, less expensive, and afford a roadway for heavy burdens, where now there can only be a footpath.

The advantages of this improved caisson are—

1st. Much greater strength, arising from the stems being part of the main body, and also from placing the timber in its construction to the greatest advantage.

2nd. No wear and tear of lead on the stems and keel, as the caisson would not work against the side of the groove during the operation of pumping, but rise almost suddenly, when required.

3rd. Saving of expense in fitting pumps, and labour in pumping every time the caisson is lifted; also, saving of time, as it could be out in ten minutes, which now averages three-quarters of an hour, and attended occasionally with great risk, if a certain time of tide for transporting a ship, and taking her into the basin, is missed; by not being able to lift the caisson at the moment wished.



4th. Owing to a different construction, being enabled to caulk between the stem and the groove, which is not possible at present, and which makes them a fit substitute for dock-gates.

Lastly. Great saving of expense, as the cost of the new one will be from £1,600 to £2,000, whereas the cost of the old caisson was more than treble that sum, or nearly £7,000.

J. W.

*Toulon, Oct. 26, 1833.*

In order to make the most of our space on the plate of the Caisson, we have filled it with the midship sections of some of H.M. ships, of which the following are the principal dimensions :

Ships.	Length of Lower Deck.		Length of Keel for Tonnage.		Breadth for Tonnage.		Extreme Breadth.		Depth of Hold.		Distance between Ports.		Burthen in Tons.
	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	
Vernon ...	176	0	144	6½	52	0	52	8½	17	1	7	8	2082½
Inconstant	160	0	132	0	44	0	44	8	13	9	9	0	1400¾
Castor ....	159	0	133	7¾	42	6	43	0	13	6	9	0	1283½
Endymion	159	3¾	132	3			42	7¾	12	4			1277
Druid ....	157	6	132	1			40	5¾	13	0			1147

*Brigs reduced from a quarter scale, Cutters from a three-eighths scale.*

W. Waterwitch.

S. Snake and Serpent.

P. Pearl, Cutter Yacht, built 1820.

V. Vigilant, Revenue Cruiser.

### *To the Editor of the Nautical Magazine.*

Bombay, 12th June, 1834.

SIR,—When “Albert” wrote you, he did not expect that he was to have sailed at the time he did, and, although late, still keeps his promise.

I consider Tristan d’Acunha the St. Helena of the outward voyage to India. Under ordinary circumstances, it is easy of access, with very moderate charges, (see market prices in January Number, 1834.) Money is not wanted, the people wishing “barter.” Tea, coffee, sugar, wine, spirits, &c., (the Americans supply bread,) will be taken in exchange. I charged 15 per cent. on cost, and they seemed satisfied.

The Diana and Mary were detained with adverse winds, after leaving Liverpool in December, 1833, and fearing light winds in the Arabian Sea, received supplies there. I find that there are six men, six women, and twenty-six children on it, (an increase of two children since March, 1833.) Mr. Glass told me that the Government had sent them, by Cape Good Hope, a medicine chest and bale of blankets, but they had remained there twelve months before an opportunity occurred of forwarding them. Capt. Ross, of the Borneo, at last took them. They said the women (not the ladies) were very badly off for clothes in winter; they are supplied



mostly by ladies in passing for India, and are much in want of six webs of "Linsy-woolsy." The Messrs. Enderbys, or some of the other South Sea houses, if apprised by you, I doubt not would do the needful.

There is good anchorage in moderate weather, with the cascade at south-west, and the western extreme of broken water W.S.W., with a current of a knot an hour to the north-east.

I am, yours, &c.

ALBERT.

### III.—*To the Editor of the Nautical Magazine.*

SIR—When I entered upon the present discussion, I only thought of troubling you with a few short remarks; and when it grew under my hand, I still considered that more would not be necessary than a full reference to the authorities on which I rested. We are, however, now arrived at a part of the inquiry in which I must, in some instances, depend on documents that are not generally accessible, and on the communications of friends, whose names I cannot take the liberty of noticing in public. It would not be fair, under these circumstances, to make you any longer responsible for the statements of an anonymous correspondent, and, instead of N. R. D., I now feel bound to subscribe myself,

Yours, truly,

Oxford, Sept. 1834.

S. P. RIGAUD.

[Our readers will recognize in the above signature that of the Savilian Professor of Astronomy at Oxford; a gentleman no less exalted by his high attainments in science, than esteemed for the less ostensible, but more valuable qualifications of an amiable mind. Ed. N. M.]

### BIOGRAPHICAL ACCOUNT OF JOHN HADLEY, ESQ., V.P.R.S., THE INVENTOR OF THE QUADRANT, AND OF HIS BROTHERS GEORGE AND HENRY.

..... ut laudem eorum jam prope senescentem, quantum ego possem, ab oblivione hominum, atque a silentio vindicarem. *Cicero de Oratore.*

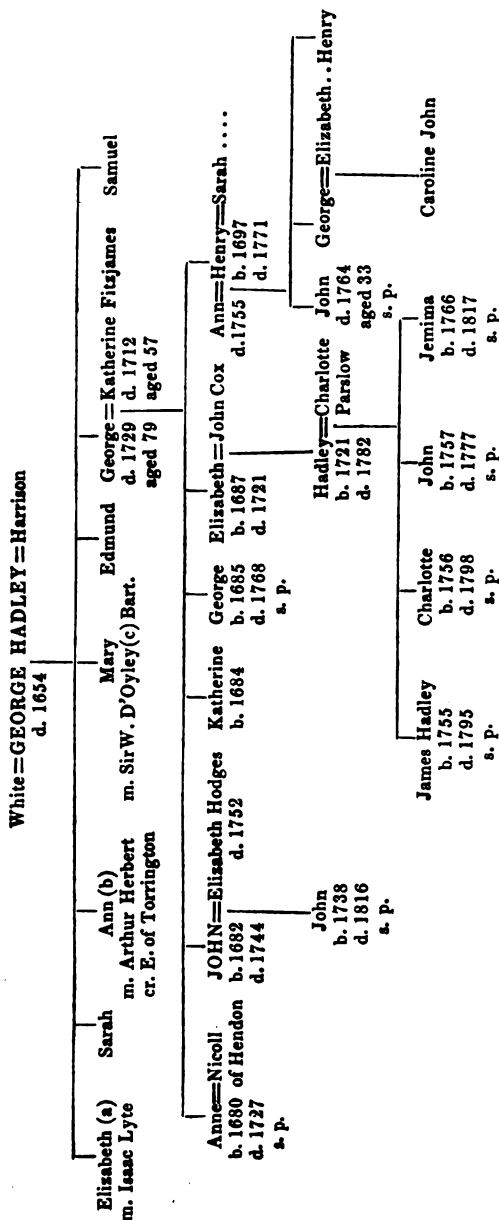
Lord Bolingbroke says, that "history is philosophy, teaching by examples:" the same description applies with equal truth to biography; and, if the facts which it relates are not connected with the fate of empires, still they possess much interest from belonging to individuals, from whose conduct we may derive both instruction and improvement. We are likewise anxious to know all that can be learned about those whom we reverence or admire. When the Marquis de l'Hospital asked, "does M. Newton eat, drink, and sleep, like other men?" the question was perhaps strongly worded, but it was in accordance with the best feelings of our nature, and with a rational spirit of inquiry. Nothing impresses any circumstances more vividly on our recollection than the means of con-



necting them with him from whom they emanate ; and they take a stronger hold upon our minds when we can convince ourselves that there is nothing in that person morally unworthy of the intellectual excellence that he may possess. In this view, it was peculiarly gratifying to be able to defend Hadley's memory from the aspersion of having appropriated to himself the invention of another, and curiosity was naturally excited to learn something of his personal history. But this wish was met at first by nothing but disappointment. His name is familiar to every astronomer, from his having been the first who realised the reflecting telescope on a scale which made it efficient, and led to the magnificent discoveries which it has been the means of laying open to us in the heavens. His name is familiar, almost to every one, in connection with the quadrant ; an instrument by which the mariner is enabled to determine the position that he occupies on the trackless deep ; an instrument by which fleets are conducted, and commerce is extended, to the most distant stations ; by which property has been saved, and human life preserved, to an amount that is beyond our powers to estimate. Yet no one has collected even a general account of the man to whom the world, and more especially our own country, is so deeply indebted. The writer in the *Biographie Universelle* has introduced his name into the work ; but, after a few remarks on some papers in the *Philosophical Transactions*, he concludes with the avowal, that "on ne connaît aucune particularité de la vie de Hadley, ni l'époque même de sa mort : car aucune des biographies anglaises que nous connaissons ne fait mention de cet auteur." Dr. Hutton indeed had given a slight sketch among the biographical notices which he contributed to the *Abridgment of the Philosophical Transactions* ;\* but, notwithstanding his unwearied diligence, and great knowledge of scientific history, it merely consists of two or three sentences, copied from the *Gentleman's Magazine*, which convey little or no information, excepting the date of Hadley's decease. The exception in this case may be taken as a proof of the general truth in other respects of the French author's assertion ; but even this has been neglected, for, in *Gorton's General Biographical Dictionary*, published so late as 1833, Hadley's name is inserted, with an account which gives no idea of the man, and supposes him to have been alive in 1783, nearly forty years after he had been consigned to his grave. There may therefore be some apology for the present attempt : which, though it must of course be very imperfect, may yet assist in pointing out the directions for future inquiry, to those who can hope to be more successful in pursuing it. To promote the attainment of this object, it is extended beyond what could be discovered about Hadley himself, and a conspectus therefore is annexed, from which the several branches of his family may be more easily distinguished.

\* Vol. vi. p. 646.





(a) Mrs. Lyte had three daughters, Elizabeth, Sarah, Rebecca.

(b) See Collins's *Baronetage*, vol. IV. p. 420.

(c) Of Oxfordshire. See Playfair's *British Family Antiquary*, vol. VI. App. p. xlvii.



GEORGE HADLEY, who appears to have been the founder of the family, was a merchant in St. Lawrence Jewry. Though a member of the Grocer's Company, nothing can be deduced from thence with respect to the nature of the traffic in which he was engaged. In a schedule of his property, which he drew up at Christmas, 1653, a copy of which is attached to his will, he estimates that he possessed

Personals.....	worth £44,651 2 7	(clear, after allowing £5,000 for charges and deductions.)
Estates {	Copyhold.....	440 0 0
	Freehold.....	12,470 0 0
		<hr/>
		57,561 2 7

The estates consisted of some houses in London, and of lands, which he had purchased at Edmonton, East Barnet, Colchester, and Wolves, in the parish of Tendring, (Essex.) He died in 1654, and there was formerly a monument to his memory on the south wall of the nave of Edmonton church, but, from the account which Lysons\* gives of it, it appears in his time (1795) to have been in a state of decay, and it is now entirely lost. It bore his own arms, together with those of his two wives, who were of the families of White and Harrison.†

He had several daughters and three sons, Edmund, George, and Samuel,‡ of whom the youngest died before him, and the eldest probably did not live to marry, and have children; for the Edmonton estate, which his father had left him, passed into the hands of his brother George.

GEORGE HADLEY, the second of the name, was born about 1649, and consequently was very young when he lost his father. As the family estates centered in him, a considerable accumulation must have taken place during his long minority; but this same interval may have prevented him from benefiting by a continuance of that traffic which had been the original source of his wealth. He was a deputy-lieutenant for Hertfordshire, and his London residence was in Bloomsbury Square. In 1685, he applied to

\* *Environs of London*, vol. ii. p. 277.

† The first arms are those of Sir John White, Lord Mayor of London, 1563, who died at Aldershot, 1573; the second were confirmed to Gilbert Harrison, Esq. in 1633, in which year he was sheriff of London.

‡ The names of the three sons are put in the order of their birth; but the relative ages of the daughters is uncertain. Mr. Hadley's will expresses a wish that the younger children should be brought up at Edmonton, under the care of their sister Sarah; but this only shews that the two eldest were probably born from the first marriage.



the College of Heralds to register the arms\* which his fathers had borne. One of the arguments which he used in support of his application was derived from his being in possession of "a plentiful estate," and he afterwards increased it by the purchase of 175 acres of the lands and manor of Bournhall, at Bushey,† in Hertfordshire. There is a survey of his property in 1700, (and it is not certain that the document contains the whole of it,) from which it appears that he had at least 651 acres in other places, besides 171 of wood-land at Ousage, near Southgate. In 1691 he was High Sheriff of Hertfordshire, and his principal residence was at East Barnet, in that county. For Salmon, in his account of the village, says, that "there was a large old building near the church taken down by Mr. Hadley, who built in another place."‡ This old building was Church-Hill House, which had belonged to his father, and which is described in the parish register of 1692, as "adjoining the churchyard."§ He had, however, pulled it down before 1700, because Chauncy, who published his history of the county in that year, speaks of "a fair seat"§ which he had then erected at East Barnet.

Sir John Fitzjames, of Leweston, near Sherbourn, in Dorsetshire, was the last of an old and honourable family.¶ He died in 1670, and his two daughters became his co-heiresses. The landed estates seem to have descended to the elder, Grace, who married Sir George Strode, a serjeant-at-law; for the only circumstance connected with them, in which George Hadley, who married Katherine the younger, appears to have any concern, was, that he joined in the presentation\*\* of the Rev. John Chafé to the vicarage of Long Bourton. It is probable, however, that he became possessed of some considerable property in the right of his wife, since he bore her arms†† on his own, in a scutcheon of pretence. She died

\* The arms granted were Gules, two chevronells between three falcons arg. beaks, legs and bells, or; Crest, on a wreath a falcon arg. beaked, legged, and belled, or, holding in his mouth a buckle of the last. These were slightly altered from what had been previously borne by the family; as, for example, the two chevronells were substituted for a chevron; as will be seen in the annexed copy of the family seal, which is certainly older than 1721, since it was used at that time by George Hadley in sealing his will. The original is cut in silver, and has in another part the crest, a copy of which is here placed beside the arms. In his petition to the college, he designated himself as the "only son" of his father, by which it must be understood that his elder brother, Edmund, was then dead.

† In 1687. Clutterbuck's Hist. of Hertfordshire, vol. i. p. 339.

‡ Hertfordshire, p. 58.

§ In the "Actual Survey of the County of Hertford, by John Oliver, 1695," Churchhill House is laid down on the north-east of the church.

§ Hertfordshire, p. 498.

¶ Hutchins's Dorsetshire, (1815,) vol. iv. p. 11.

\*\* Ibid, p. 17.

†† Azure a dolphin embowed arg.





in 1712, at the age of 57, and was buried by her own desire at East Barnet. He lived till 1728-9,\* when, in compliance with a wish which he naturally entertained, his body was buried in the same grave with her's. By his marriage he had three daughters, who appear to have all died before him, and three sons, who survived him. The portion of his property which he assigned to each of the two younger, George and Henry, was £2,000, with an annuity of £20, secured on the lands at Bushey, so that the family estates, probably with considerable additions in money, devolved to the eldest, whom he made his residuary legatee: this was John, to whom these particulars owe any interest which they may possess.

JOHN HADLEY, who immortalized the name, was born, as appears from a memorandum in his father's handwriting, "16 April, 1682, just half an hour past 9, before noon, Sunday, Easter-day; christened the 21st, by Dr. Sharp,† Dean of Norwich; sponsors, Sir Harry Fitzjames, John Huxley,‡ Esq., and Lady Fitzjames." Sir Harry and Lady Fitzjames were evidently connected with his mother, and the respect in which Mr. Huxley was held by the family may be inferred from the preference given to him in the name of the child. The place of his education is not known; no notice of him has been found in the matriculation books at Oxford; and if he was a member of any college at Cambridge, he left the university without taking a degree. How soon he devoted himself to mechanical inventions and scientific pursuits, is uncertain; but Desaguliers published the second volume of his lectures in 1744, and, having spoken|| of the water-works which Mr. Sorocold put up at London bridge, "between thirty and forty years" before, he adds, "as for the contrivance for raising and falling the water-wheel, that was the invention of Mr. Hadley, who put up the first of that kind at Worcester, and for which a patent was granted him." The first edition of Maitland's History of London makes no mention of Hadley's share in the construction of this machinery; and the omission is the more remarkable, since his name appears among the subscribers to the work. There can, however, be no doubt of the individual to whom Desaguliers alludes, since he is mentioned in the index, with the addition of his christian name.

\* Clutterbuck, in his History of Hertfordshire, vol. i. p. 154, gives a copy of their epitaph, but he has read the date of George Hadley's death as MDCCLXIII., instead of MDCCLXVIII. From the dilapidated state of the tomb, this mistake may have been very easily committed; but there is no doubt of the true time. Lysons, in his Environs of London, (vol. iv. p. 14,) makes it 1728, and there is in the Bodleian Library a copy of Salmon's Hertfordshire, in which Gough has noted with his own hand, against the place, in p. 58, where the death of his wife is inserted, "he died Jan. 21, 1728, aged 79."

† Dr. Sharp, afterwards Archbishop of York, was Rector of St. Giles in the Fields, of which parish Bloomsbury then made a part.

‡ In some other memoranda, Mr. George Hadley speaks of "Sir J. Huxley," "nephew Huxley;" "my niece, Sarah Huxley." It is probable, therefore, that he was connected, by the marriage of some one of his family, with the Huxleys of Wyer-Hall, in the parish of Edmonton.

|| P. 528.



In 1717 (March 21) he was elected a Fellow of the Royal Society, and at once became an active member of that distinguished body. It was formerly a frequent practice, when a paper or publication of any interest was presented, for the Society to place it in the hands of some one of its members, with a request that he would give an account of it. It was upon one of these occasions that Hadley drew up the analysis of Bianchini's work on Venus, which is published in the *Philosophical Transactions*,\* and he was repeatedly applied to on similar occasions; but of these, the most remarkable is that on which his name first appears on the minutes—"1718, May 1, Mr. Hadley reported that he had considered Mr. Maclaury's paper, and found that his propositions were right, and that he had shewn the formation of several trajectories, in which bodies might move about a gravitating centre, the gravitating power being as any dignity of the distance, either integer or fracted." If this designation† is intended (as it most probably is) for Maclaurin, it is curious to find ourselves carried back to the time when a name seems hardly known, with which every one who would claim to be acquainted even with the nomenclature of scientific men, is now familiar. But, independent of the author, the subject of the paper will mark the high estimation in which Hadley must have been held, for, at that time the number of those who could study the *Principia* was very limited, and the orbits of revolving bodies was a subject of abstruse inquiry.

But Hadley soon came forward in a more important character. James Gregory was the first to suggest the use of reflecting telescopes in a practicable form, but he never‡ realized his own ideas upon the subject. Newton afterwards devised an improved construction, and actually executed it. The instrument, however, which he made, was of a very small size. The Royal Society|| employed a person of the name of Cox to execute another on the same plan, four feet long, but he did not succeed in polishing the mirror; and the attempt was not renewed with success, till Hadley applied himself to the undertaking. He first brought it to perfection about 1719,§ and the following minute occurs in the journals of the Royal Society, January 12th 1721. "Mr. Hadley was pleased to shew the Society his reflecting telescope, made according to our President's [Newton] directions in his *Optics*, but curiously executed by his own hand, the force of which was such, as to enlarge an object near two hundred times, though the length

\* Vol. xxxvi. p. 158.

† It is difficult to be always accurate in the orthography of names, but our ancestors were sadly negligent in this respect. In the thirty-ninth volume of the *Philosophical Transactions* there is a paper of Maclaurin's own, in which he alludes to some remark of Robert Simson on Pappus, the Greek mathematician of Alexandria; and we find it described (p. 145) as "a hint from Mr. Sympton of Mr. Pappus's porisms."

‡ Brewster's *Life of Newton*, p. 28.

§ Browne's Translation of Gregory's *Optics*, with Desaguliers' Appendix, p. 232.

|| Smith's *Optics*, Remarks, sec. 136.



thereof scarce exceeds six feet, and, having shewn it, he made a present thereof to the Society, who ordered their hearty thank, to be recorded for so valuable a gift." At the following meetings on January 19th, his father and brother were permitted to be present, and he then "shewed the Society his apparatus\* for managing his reflecting telescope, which was highly approved of both for its simplicity and for the ease and certainty wherewith it performs the motions requisite to follow the heavens; he was intreated to lend Dr. Halley this apparatus, to have one like it made at the Society's charge, to be used with his noble present." At the first meeting, he had been desired to give the necessary instruction to Dr. Halley for the use of his instrument, and in the following March, the astronomer royal reported that he had made some trials with it "on the bodies and satellites of the superior planets," which induced him to think it excelled "even the great telescope at Wanstead." These extracts, from the Journals of the Royal Society, supply the valuable expression of contemporaneous opinions: the real advantage of an invention or improvement, is always most striking at first, and can be best estimated by those, who are immediately sensible of all that has been gained by it.

The great telescope to which Dr. Halley alludes, was that which Pound had fitted up with the Hugenian object glass which belonged to the Royal Society. Hadley's reflector was sent to him† in 1722, upon his expressing a wish to observe with it and try its real merits. This was the more particularly desirable, because Hadley on the 6th of April 1721, had communicated the account of some observations which he had himself made with his reflector, and it was then remarked,‡ "that several of these observations were never made before in England, until the society set up their long telescope of above one hundred and twenty feet at Wanstead." Now he had seen the transit of the satellites and their shadows on the disc of the Jupiter; he had seen the division in Saturn's ring, and the shade of the planet cast upon it, but he had only been able to distinguish three of the satellites.¶ It was reserved for Pound to see the whole of what was then known of the Saturnian system.§ In the report of the examination which

\* Hadley gave a full account of this in the Philosophical Transactions, vol. 32, p. 303. Though long superseded by improved constructions, his stand had the merit of being firm, and of admitting the tube to be brought nearer to the zenith than some of more modern date.

† Pound died in 1724: if the instrument was ever returned to the Royal Society, it has been since lost: it does not now exist in their museum.

‡ Journals of the Royal Society.

¶ They occupy the beginning of Hadley's paper in the Phil. Trans. Vols. 32, p. 385. Though the reflecting telescope was from the first most warmly received, there was great caution in trying the power of it. Hadley's description was only inserted in the 376th No. of the Ph. Tr. for March and April 1723, and his own observations were not published till the 378th number, which came out for July and August of the same year. Several observations of a later date were then added, the account of which does not appear to have been read before the Society.

§ Phil. Trans. vol. xxxii. p. 381.



he made with the assistance of Bradley, he enters more fully into the relative merits of the instruments, and expresses his conviction that if the mirrors could be preserved from tarnishing, the catoptric would for the most part supersede the old dioptric telescope. With respect to the individual instrument, they found that it represented objects "as distinct, though not altogether so clear and bright" as the Hugenian glass: they speak indeed of the ease with which it might be managed "at a window within a house," and this would have interfered with a fair trial of it, for the back and front of the mirror would, under such circumstances, be most probably exposed to different temperatures. This may have materially affected the experiment, but the real and essential cause of defect, is most probably to be found in the composition of the mirror.

Hadley himself acknowledges\* that "the concave surface of the object metal had many little spots on it, which could not be brought to take a polish. In one or two places, the metal itself seemed to have some small parts, something harder or softer than the rest, occasioning an irregularity in the figure of the metal about them." Pound repeats† the same, which may be attributed to the nature of the metal, and imperfect manipulation in the mixture of its component parts. Pliny says,‡ *optima [specula] apud majores fiebant Brundusina stanno et ære mixtis*; and Vauquelin analysed an ancient mirror, which he found to consist of .85 copper, .14 tin, and .01 iron,|| but Newton points out that the addition of white arsenic made the metal more white and solid.§ The noisome and supposed deleterious nature of the fumes of arsenic seem, however, to have been an impediment to the use of it; at least, Newton's experience was not sufficient to establish¶ its adoption: and the omission may have contributed to the defect in Hadley's mirror. Molyneux, whose knowledge was derived from him, certainly made little or no use of this ingredient; of 150\*\* mixtures which he tried, there was but one to which he speaks of having added any arsenic, and this he dismisses from particular consideration, because it "is very expensive, and will never become common." For all the rest he only enumerates different proportions of tin, copper, and brass.††

The account given in Smith's Optics (1738) of reflecting telescopes, consists principally of the information which had been communicated to him by Molyneux; but this was deficient with

\* Phil. Trans. vol. xxxii. p. 311.

† Ibid. p. 383.

‡ Lib. 33. c. 9.

§ Brande's Journal 2d series, vol. ii. p. 209.

¶ Phil. Trans. vol. 7. p. 4006-7.

|| Edwards, annexed to Nautical Almanac for 1787, p. 6.

\*\* Smith's Optics, §. 787.

†† Molyneux tells us (Smith's Optics, sect. 783) that they acquainted Hearn, a mathematical instrument maker, with the whole process of the operation, as they had practised it. An old mirror of his has therefore been analysed, and no traces of arsenic could be discovered in the composition of it.



respect to the methods of forming the mirrors. Smith seems to have applied in consequence to Bradley, who answered in a letter\* on this subject, which appears to have been written in 1733. Bradley had worked by Hadley's methods, and had assisted Molyneux in practising them; but he had been interrupted in his pursuit, and had kept no written memoranda of his experiments. After the lapse of many years, therefore, he felt little confidence in the certainty of what he could only communicate from recollection; but he tells Dr. Smith, that "if upon talking with Mr. Hadley I learn that he has any thing of more use to communicate to you on this subject, I shall desire that he will do it as soon as possible." This opportunity most probably occurred, for Smith has given† us the particulars which Hadley drew up for him, of his methods for forming and polishing the mirrors; and it must not be left unnoticed, that allusion is specifically made in them to what may give the "true parabolic figure." It is much to be regretted that we have not more on this point from Hadley's own pen, but Molyneux speaks of his being unwilling to take the "trouble to reduce to writing what he knows and hath practised." This however, was not accompanied by any unworthy desire of concealment, for Molyneux at the same‡ time highly praises his "communicative genius," and mentions the "frequent instructions" which he had himself received from him. Neither did Hadley confine his communications to his individual friends, or to persons in his own rank of life; for after he had brought all "to perfection|| by the work of his own hands," he "taught his Majesty's optician, Mr. Edward Scarlet and his son, to make" telescopes according to the methods which he had devised. In the same spirit he befriended Short,§ by assisting to procure for him the distinction of being elected in 1737 a fellow of the Royal Society.

Lalande¶ says, that Hadley applied himself to the formation of reflecting telescopes, "a l'instigation de Newton." This, if there had been no other reason, may naturally have led him to begin with the construction, upon which he first worked; but he did not confine himself to it. He soon after\*\* proceeded to make Gregorian telescopes, and he had certainly perfected one in 1726.†† He drew

\* Bradley's Miscellaneous Works, p. 401.

† Against §. 789, is a side-note in the margin describing what follows, as "Mr. Hadley's continuation of this chapter." This circumstance explains an ambiguity in the heading of it, (p. 301.) which announces "the method of casting, grinding, and polishing metals for reflecting telescopes, begun by the Hon. Sam. Molyneux, Esq., and continued by J. Hadley, Esq., V.P.R.S." This continuation must certainly be understood not of the method itself, but of the description here given of it.

‡ Smith, §. 782.

§ Desaguliers Appendix to Browne's Gregory, p. 212.

¶ June 26, 1735. There is mention in the Journals of the Royal Society of a communication from Maclaurin to Graham, about one who had made great improvements in reflecting telescopes. This probably was the earliest public notice of Short in the scientific world of London.

¶ Astronomie, (1771,) sec. 2993.

• Smith's Optics, Remarks, §. 136.

†† Desaguliers Appendix, p. 250. The first which he completed is still in existence, and will be noticed more particularly hereafter.



up tables and rules for this form, as well as for Cassegrain's;\* we may therefore reasonably conclude that he did the same for the Newtonian. For this last-mentioned kind of telescopes he devised the stand, of which notice has been already taken, and which continued in use for many years; and Smith† describes "a little machine for supporting and managing Mr. James Gregory's reflecting telescope, brought into use by Mr. Hadley." It consisted of a ball and socket: the socket was attached to the circumference of a ring which moved round an horizontal bar, so that it could be fixed by a tightening screw at any elevation which might best suit the observation to be made. By this means the telescope could be directed (which is the great difficulty in all stands) as well to the zenith as to any other part of the heavens.

#### IV.—MARINE INSURANCE.

*To the Editor of the Nautical Magazine.*

*London, 18th November, 1834.*

SIR—ON taking up your Magazine for this month, my eye was attracted by an article headed "Marine Insurance;" and, fancying I might find something of the history, the theory, or the practice of so important a branch of our commerce, I immediately commenced reading it; but I was certainly very much surprised when, instead of any thing like history, I only met with assertion; and when, instead of any thing like commending, I found the motive of the writer was to point out the necessity of abandoning the practice of underwriting altogether.

From the tenor of the above observations, I dare say you will at once conclude that I am not unfriendly to that profession which your correspondent from Kirkcaldy so much decries, and in whose opinion you seem so strongly to acquiesce, that you do not hesitate to inform your readers that "you will take every opportunity of shewing them the bad effects of Marine Insurance." Now, I own I am an advocate for what you are so opposed to; and I own it with pride; for I know that I only hold the same opinion which numbers of our most able practical men of business, and most of our enlightened and disinterested legislators, have maintained for a century, and more. Nevertheless, I must confess, that if your correspondent could demonstrate satisfactorily the truth of the alarming assertion that I met with in his first paragraph, all recorded opinions in favour of the practice, however high and respectable their source, should be counted as nothing, or rather worse than nothing, as having been partly instrumental in keeping up a fatal delusion. The assertion to which I allude is as follows:

"Sea Insurance is the cause of three-fourths of the shipwrecks that take place."

\* Ibid. p. 285.

† Smith, §. 924.



Now it is very easy, Mr. Editor, to deal in round numbers, for it saves much calculation to many indolent persons, whether writers or readers; but somehow or other these round numbers are not in such repute as they were; some sceptical readers are rather apt to suspect their accuracy, when they are boldly put forth in the van of an argument. I am one of those readers in the present instance. With every respect that I may entertain for your correspondent, I am rather disposed to doubt the accuracy of his allegations. He adverts to the year 1833, and says (I think he is within bounds) that in that year there were 800 British vessels lost or wrecked. Now, this number being lost, it follows, if the assertion of your correspondent be true, that at the door of Sea Insurance must be laid the destruction of three-fourths of that number, i. e. 600 British vessels—a fearful number indeed! and calling loudly for legislative interference in the whole system, if the fact were so. I could deal in assertions as well as your correspondent; and I should probably not be very much out, were I to aver that only a certain portion of the vessels lost *were insured*; but I will not fall, if I can help it, into his error. I shall, however, meet his assertion with a direct negative; and what he ascribes to the remote agency of man, I shall attribute to the more proximate cause—the war of the elements—that fearful war of winds and waves, against whose overwhelming force neither the heart of oak nor the heart of man, neither the best constructed ship nor the most courageous sailor, are of any avail.

Referring to a list of losses which I keep by me, I find, that of the losses in 1833, full 400 were coasters, a class of vessels which, from the facility of getting them employed, and from their being often owned by retired captains and respectable tradesmen at the outports, are kept in as good, probably in a better condition, than larger vessels; and very many of them are also insured in *Mutual Insurance Clubs*, the members of which, it is well known, keep, for their own sakes, a strict surveillance over each other's ships. The presumption is, therefore, that other agents than *General Sea Insurance* have caused this amount of loss; and what can they be but those *very gales* to which I have alluded, and against which it is the province of Sea Insurance to offer protection? Does your correspondent recollect that in February there were 91 losses; in November, 78; in December, 60; all, you see, in the *winter* months. Why, in the first of those months, *one gale* alone caused the recorded destruction of no less than 70 coasters, and perhaps of many others whose names are not given in Lloyd's lists. Does your correspondent mean to ascribe to incapacity of ships or mariners (that incapacity primarily occasioned, as he supposes, by Sea Insurance) all this, or three-fourths of this frightful loss? Does he know that a great many of these were *grain-loaded* ships, always a dangerous cargo, from its liability (however well stowed) to *shift*; and which ships are gene-



rally *selected* to carry grain, inasmuch as underwriters, though they pay in case of loss or strand, do not bear the loss *from leakage*? Does he know, too, that 20 of those losses were Welsh coasters—a class of vessels generally very respectably owned, and well kept? And does he know, that on the same fatal night the fine steam-vessel Erin, from London to Dublin, constructed on the best model, and considered so safe that teas were insured by her at 7s. 6d. per cent., also perished?—it is not wonderful, indeed, that she should, for the post letters describe the gale to which she was exposed as a perfect hurricane. Again, on the 28th and 29th November, there were at least 40 coasters wrecked. But it would be endless to adduce similar instances of loss during these dreadful visitations: and yet, if your correspondent is right in his assertion, had there been no Sea Insurance, only one-fourth of these casualties would have occurred; the dark nights, the narrow seas, the lee-shores, would have lost all their dangers. With equal propriety might he allege, that, had it not been for that system, the elements would have been stripped of all their terrors; the billow would have been a gentle ripple—the hurricane, a breeze!

Another terrible bugbear, in the imagination of your correspondent, seems to be the influence which the *Insurance Companies* exercise on the construction of vessels: for I find this paragraph on the article in question:—

“That the remote but influential cause of the frail and perishable construction of the mercantile navy, appears to be the *pernicious* influence exercised over the commercial interests, by the Sea Insurance companies.”

Why, this, Mr. Editor, is a most astounding assertion, truly! But being made from the remote regions of Kirkaldy, it is not to be wondered at that one living more within the sphere over which the said companies exercise their influence, should be rather disposed to question its correctness. The petition (for your correspondent speaks through a petition) does not state when this withering influence commenced; but as the evil complained of is represented as one of many years' growth, so, I suppose, we must also spread over many years this influence. But what then becomes of the assertion? Why, I dare say, Mr. Editor, it may be in your remembrance, that when certain merchants of the city of London petitioned to have the monopoly of the two chartered companies annulled, their principal weapon of attack was a charge of the utter insignificance of the transactions of these two companies, in comparison to the general business of the country, and to the increased exigencies which a more extensive trade had produced; in fact, they wanted to prove that these corporations were two old women, who, by their very inanition and indolence, had forfeited their charters. This was, I think, in 1810, an age not quite so fond of annihilation of charters as the present; and I suppose it was partly on account of this prejudice in behalf of charters, that the two old ladies (as some



called them) were permitted, for some years longer of their innocent senility, to enjoy their exclusive privileges—*Fas est ab hoste doceri*—your correspondent's assertion is condemned out of the mouths of the enemies of the two companies. To have been so extremely pernicious, their influence must have been greatly extensive; but they appear to have had no influence whatsoever, and therefore they must be exonerated from the heavy charge brought against them; but the fact is, if, instead of censure, your correspondent would deal in a little praise, he ought highly to commend those two old ladies for the very discreet manner in which they were supposed to have managed their affairs, by an extreme caution in selecting *good* from *bad* vessels, and thereby *offering a premium* for the *construction of good ones*.

Perhaps, however, by "Companies," the writer does not mean the two chartered corporations only, but also the other sea insurance companies, which within the last three or four years have commenced business; if he does, I think he must be aware that his position is not tenable, for how can that which is so *new* govern that which has been so *remote*: the evil of which the writer complains is that of more than a century; how then can he ascribe it to the ephemera of only two or three years. Besides, whether for good or evil to the country, the greater part of the insurance business is still effected at Lloyd's, because having no large board of directors to pay, and in the multitude of his counsellors acquiring more information, the private underwriter is able to be a *shade* under the companies.

But it is not with the companies alone that you are (in conjunction with your correspondent from Kirkcaldy, and aided by the author of the small treatise on Marine Insurance, of which you gave some extracts,) going to wage warfare; from what I gather from your remarks, your design is to attack, whenever you can, underwriting or sea insurance in the abstract, as being the sole and the fruitful source of all the evils under which the mercantile marine of this country labours. Your design sir, may spring from your own conviction, but I really much doubt whether you have fully considered the matter—mind, I say so with all due deference.

But the author of the pamphlet goes infinitely farther than you do, for he not only decries the system, but vilifies its agents. In his opinion, underwriters are the greatest pests that a mercantile community can have; they are, by his account, not only negligent, but even criminal in the highest degree, for they not only refuse to countenance the building of strong and safe ships, but, when such are built, they enter into a dark conspiracy so to classify them in their registers, that they shall not be distinguished from the ordinary or even bad ships; in fact, that their design is to make a thorough jumble of all, so that the risk of sea voyages



may be kept up, by demonstrating to owners the inutility of building *safe* ships. Now, this is really a very heavy charge to make against a class of persons who number among their body many highly talented and not a few highly respectable members of the commercial community; and, in fact, this coalition of such members for all that is base, seems so highly improbable, that I cannot help thinking the writer of the pamphlet in question must have been napping at the time he advanced such an opinion. I believe it will turn out to be, that for the facility of some immediate reference in a business which admits of no delay, registry books have from time to time been formed. I believe that such registry books, with much accurate and useful information, abound with many errors, as they were likely to do, considering the vast amount of shipping intelligence which they are designed to comprise. I believe, too, that there has been much negligence in keeping up those books, and that sometimes disreputable means have been adopted to get a better character attached to ships than they merited. I also believe, that though they are useful *text* books for the underwriter, he does not take them without many a *commentary*—that the owner and captain, with him, are often as much matters of inquiry and comparison, as the build and the age of the ship, and that many a risk has been refused, though the vessel might have stood tolerably fair on the book, if those other concomitants to that risk were not deemed eligible. The author to whom I have alluded, fearful that his view might be considered (as I deem it unquestionably will) uncandid, appeals to official documents to support his charge in the matter of these registry books against the underwriters; he alludes especially to the history of one of those books, and he wishes to make it appear that so bent were those personages upon keeping up their iniquitous war against the lives and pockets of the community, that they shut their ears to all arguments and remonstrances of those who were opposed to their plan, and doggedly proceeded in their selfish career, till, through the instrumentality of that and the other registry book, they have brought it to pass, that the British merchant vessel of the present day, instead of being a fabric that should buffet effectually every breeze, and ride buoyant on every billow, is one which “is put together with less art, (I use the writer’s own words,) or attention to scientific principles and regard to safety, than the rudest machine of ancient or modern times;” that, in fact, it is one of the merest sieves that can be made to float,” and is as fragile as the “coracle of Caractacus.” Now, with every respect for the marine of our ancient brave fellow-countrymen, I must confess that I have never yet brought myself to imagine that, in point of scientific construction, it was on a par with that of his more favoured descendants; however, I am willing to take this comparison of the writer as a pretty figure in



discourse, and to attach as much importance to it as such ornaments deserve, when he descends from that high antiquity to converse of things of the present day, his argument deserves our attention, and I regret that ignorance of the proud, the beautiful science of ship-building, incapacitates me from giving it due consideration, but though I am ignorant as to what quantity of timber is necessary to make a safe ship, I am not so unacquainted with the relative uses to which ships are applied, as not to know that the strength required for a man-of-war which is to carry an immense weight of ammunition, &c., and to withstand the shock of artillery, must be very different from that which would be necessary for a merchant ship which was to have no "roarers" against her but the winds and waves, and which we know has, in nine times out of ten, in many trades, to carry, though a bulky, comparatively a very light cargo. Yet the writer of the treatise in question would have all our merchant ships built as strong as men-of-war, so that in future they should neither suffer from "winds, waves, rocks, shoals, or fire," and produce, as a consequence of such exemption, (for that is the great drift of the writer,) the total annihilation of the practice of underwriting or sea insurance. Supposing, however, ships could be built capable of withstanding all the perils enumerated as above in the said treatise, has the writer considered how the owner would reimburse himself for the additional cost, and has he calculated how, if that cost were a third more than it is at present, he would be able to compete with the foreign ship-owner, who is now running him hard in the race of enterprise, and threatening each year to wrest the prize from him. I cannot think he has entered upon such a calculation, for, if he had, he would have found that in the present condition of commercial affairs, and in the present feeling towards the free and unrestrained intercourse of nations, such additional cost, however desirable for some reasons, is manifestly impossible to be applied to British mercantile shipping. For the evils under which the owners of that property labour, and for its consequent insecurity and depreciation in scientific worth, (if that be the case,) the writer of the said treatise must go farther than underwriters, or their tremendous weapons against the lives and pockets of his majesty's subjects—their register books: for my part, I cannot help thinking that foreigners have as much to do with the evil complained of, through their competition, as the frequenters of Lloyd's coffee-house, or those more concentrated mischief-workers, the companies; and I am also disposed to imagine, that public statutes may be as influential, whether for good or evil, as private registers, and that improvident legislation sinks as many ships and wastes as many lives as insurance.

You see, Mr. Editor, I have taken up the cudgels against you—



your correspondent from Kirkcaldy—and your friend, the author of the little work on Marine Insurance; because I think you all three ascribe to sea-insurance *alone* an evil which, in my humble judgment, springs from many concomitant causes; but it is not because I fancy that insurance requires another advocate, that I have done so, but because I should like to see your own, and the talents of your correspondents, still turned to those subjects, scientific and moral, which will really benefit the commercial shipping, and the deserving men employed in it. This desirable end, I do not think (yet I may err) is to be promoted by an indiscriminate attack upon sea-insurance; for this reason, that I have no idea that you will be able to get the majority to be of your opinion, and consequently your fire will be thrown away. And, do not you really think, Mr. Editor, that as long as there is the possibility of the recurrence of a whirlwind, by whose influence on the tide, a ship of the burden of 1400 tons (the Duke of York) could be driven over a bank, and left high and dry a useless hulk; and, as long as there is a chance of a hurricane such as that which occurred at Barbadoes in 1831, (to mention no later instance,) when the whole island was laid waste, and twelve vessels which were lying at anchor were totally destroyed; as long as there is a danger of eighteen vessels, and those of the strongest build, being lost out of a fleet of eighty Davis' Straits' men, owing to a heavy and perfectly unforeseen pressure of the ice, as was the case in 1830; and as long as navigation is endangered by such currents as that which, baffling the vigilance of experienced seamen, set the Thetis frigate upon a rock, and caused her loss, besides that of much treasure, and, what was most to be deplored, the loss of the lives of many of her crew; do not you think, I repeat, that sea-insurance must still, nay, that it ought to exist? Yes, Mr. Editor, it is in the event of such casualties as these that insurance, instead of being an evil, is found a practical blessing to the community; it is then that the definition to which the writer of the treatise adverts, and which he correctly quotes, is properly appreciated, for it is then that "the loss" (which in such cases may without irreverence be designated the act of God) "lighteth rather easily on many, than heavily on few." It is in such inevitable misfortunes as these that the underwriter steps in, and saves the widow and orphan from a prison, and the merchant from undeserved bankruptcy; it is then, when, instead of being considered a heartless gambler, or a grasping speculator, he becomes a sure benefactor, and a liberal restorer to the enterprising of what else they would irretrievably have lost. But I will not proceed farther with this subject; I have drawn long upon your attention already. You may give these remarks a place in your Magazine, or not, as you deem most expedient: your pages are open, I presume, to all



parties interested in commercial affairs ; if you make them the medium of an attack upon one class of persons, I dare suppose that, in justice, you will permit that class to make those pages instrumental to defend themselves from that attack.

I have the pleasure to be, Mr. Editor,

Your constant reader,

VINDEX.

V.—OBSERVATIONS ON THE COAST OF SYRIA. *By Captain Sir John Franklyn, Knt.*

HAVING no occasion to touch at any of the places in the Gulf of Adalia, the course was shaped from the Khelidonian Islands direct for Cape Anamour. The day on which we passed the latter cape, we found by our observations that the ship had been set twenty-four miles to the east, beyond what the course and distance gave. As the wind was steady, and favourable and the sea smooth, I can assign no other cause for this set than a current from the west, similar to that we had experienced when near the Khelidonian Islands. A strong breeze came from west the same afternoon, and continued the greater part of the night ; which, besides advancing the ship rapidly, did us the further service of driving off the dense white haze which Beaufort correctly describes as prevailing at this season, so as to hide the land, and confine the view to a very short distance. The heat is extremely oppressive in this state of the atmosphere : every one, therefore, felt revived by the change this wind had produced. Darkness came on too soon, and it put an end to the gratification we had enjoyed, while the daylight lasted, of looking at the varied features of the land we were passing, and by the recognition of all the different objects of interest to which our attention had been directed by Beaufort's accurate and minute description.

As Chilendreh is the port where the Tartars from Constantinople embark for Cyprus, we intended looking in there, if the daylight had allowed. When on the point of entering Port Cavaliere, we were told by the master of a boat that was passing the point, that there were no inhabitants residing there, all of them having retired as usual to the mountains, for the summer. The course was therefore directed so as to pass at a proper distance on the outside of the Lissan el Kapheh, and afterwards towards Ayash, at which place I was desirous of calling for information respecting Ibrahim Pasha's movements. The wind, and threatening appearance of the weather, prevented our going to Ayash, and caused us to proceed at once to the Bay of Iskenderoon. In rounding the point of Lissan el Kapheh, and passing the mouth of the Cyhiook river, at the distance of seven or eight miles, we found that the current was setting strong to the west. The ship, though sailing by the log at



between two and three knots an hour, seemed by the land to be making scarcely any progress. In almost every nook of the land in which the small craft could find shelter, we perceived them loading wood, as we supposed, for Syria and Egypt.

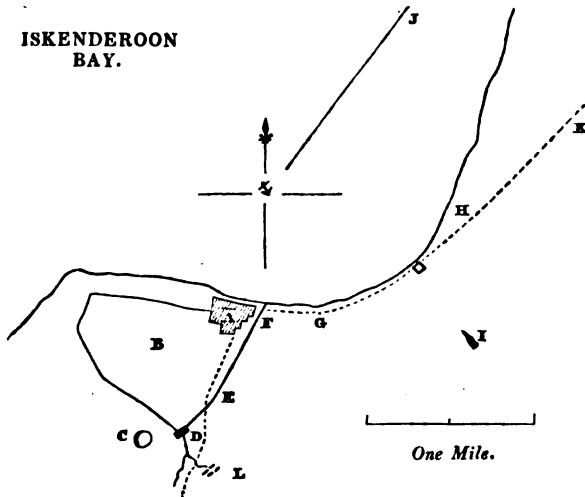
The wind blew strong, and the weather was very unsettled, on the night we entered the Gulf of Iskenderoon; but, having full confidence in the accuracy of Beaufort's charts, we ran up beyond Cape Khynzir before we hove to, at the distance which would allow room for the drifting, until daylight. There is, in fact, sufficient space for working a ship, under almost any circumstance, between the sands projecting from the mouth of the Fyhoon river and the opposite main shore; and the lead would be a safe guide.

When we were only a few miles distant from the Bay of Iskenderoon, and were actually steering directly for the town, the pilot became doubtful of its being the place, from not seeing a minaret that was standing when he was last here, and from the present ruinous and desolate appearance of the houses. The haze then covered the high land and distant points, and prevented his seeing any marks these might have afforded him. He therefore requested the course might be changed, so as to steer towards another town farther to the north, which had a minaret, and presented an appearance more like what he remembered Iskenderoon to be. This proved to be Payas. The mistake was first discovered by our suddenly shoaling the water to thirteen fathoms, when at a considerable distance from its western point of entrance, and his observing a rock above water in the bay, which he knew was not in that of Iskenderoon. On sending a boat to a vessel at anchor, we found there was only four fathoms water some distance from the town. I mention this circumstance, because there were other persons on board who had been at Iskenderoon since the pilot had, that were likewise deceived; and, also, because I know that a similar mistake on the part of merchant-vessels has caused them to be captured by the celebrated robber Cucbuk Ali, when he held the district of Payas. Payas is now in ruins, and only inhabited by a few Americans and Jews.

When we returned opposite the Bay of Iskenderoon, the wind was blowing strong from W.S.W., and sending in such a swell as to cause the water to break over the shoal-parts near the shore. Though the bay afforded but little prospect of shelter, as we were entering under these circumstances, I determined on trying it, on account of its being represented in the book of Sailing Directions as the best anchorage in Syria. We took up our position as near as possible to the spot where the Fredericksteen had anchored, and found much better shelter than we had anticipated. The anchor was let go in fourteen fathoms; and, after veering to sixty fathoms of cable, the following were the bearings taken:—Extreme of



town, S. 30° W., S. 14° W.; west point of bay, S. 69° W.; east point of bay, N. 39° E.; town of Payas, N. 18° E.; mouth of Fyhoon river, N. 61° W.



*References to the Plan.*

†—Anchorage of H.M.S. Rainbow, in fourteen fathoms sand. The soundings decrease gradually to the shore on both sides. The line of direction † J is to the northern bluff point of the bay distant nearly two miles and a half.

A—Town of Iskenderoon.

B—Low marshy swamp.

C—Ruins of an ancient fortress.

D E F—The new cut by Mr. Martinelli.

G—Single palm tree.

H—Three palm trees.

I—Remarkable cliff in the mount east of the town.

G K—Road to Payas.

L—Turkish Tombs.

Scale one nautical mile. The compass is drawn on the magnetic meridian, the variation from the true being about 9° W.

If we had gone about three 'cables' lengths nearer the town, which we might safely have done, we should have had twelve or twelve and a half fathoms water, and have been almost sheltered from the swell by the western point of the bay. We had, however, no chart to guide us, and the appearances did not justify our going.



nearer the town, without possessing some certain information as to the depth of water. The annexed plan of the bay, made from its survey by Mr. Kay, midshipman, and Mr. Tonna, schoolmaster of this ship, supplies the deficiency of the chart, and may serve as a guide for other ships. The ground is good for holding in every part of the bay; merchant-vessels may anchor near the shore, in seven or eight fathoms. We learnt that it is very unusual to have the sea-breeze so strong, or so much swell, as on this day. The water is said to be generally smooth, and favourable for the merchant-vessels to receive and discharge their cargoes. The bay is open from W. S. W. to N. E., but, in the summer, the sea-breezes which come from S. W. and N. W. are said seldom to blow home. The winds most to be apprehended are the gales from the north-east, and the gusts from the mountains; but these, as far as I could learn, rarely occur before the commencement of the winter, and in the early spring, at which seasons, I believe, the trading-vessels from Europe very seldom come to these parts.

The bay of Iskenderoon was formerly much frequented by vessels, and has only been disused on account of the insalubrity of its atmosphere, and the oppressive heats of summer. The heat cannot perhaps be ameliorated, but the atmosphere of the place is in the course of being much improved by the drainage of its surrounding swamp, and the health of the inhabitants likewise, by their having comparatively pure, instead of stagnant, water to drink. These benefits are owing to the skill and perseverance of Mr. Martinelli, the agent of the mercantile houses of Aleppo and Bagdad, who is the only European at present residing at Iskenderoon. He had the kindness to favour me with a sketch of his plan, and with a general account of his operations, which may perhaps be explained by the following brief notices:—

The town of Iskenderoon stands on a small patch of sand close to the beach, at the north-east corner of the swamp, which extends near a mile from the town to the south, and a somewhat greater distance towards the west and south-west directions. At a mile south from the town, are two springs of very pure water, issuing from under rocks, and their waters, instead of being a benefit, have perhaps been the main cause of disease, from no sufficient means having been taken to prevent their spreading over the low ground, and forming a pestiferous swamp. The two drains which were originally cut, to carry off the water through this lowland, have been for years so neglected, that they are now choked with mud and noxious weeds. Yet it has been from one of these impure drains that the inhabitants of Iskenderoon have obtained their daily supply of water, as well as the crews of the ships that have required it. In contemplating his scheme of draining this swamp, Mr. Martinelli first looked to the widening and deepening of one of these drains; but, in striking levels through the swamp, he discovered



that it was in many parts below the level of the sea, for which reason he at once abandoned the idea of working on either of the original drains, and determined on endeavouring to force the water to the sea through another channel. He accordingly threw up an embankment across the basin into which the waters fall from the springs, at a little distance from the source, and thereby turned the course of the water from the direction of the swamp into a canal which he has cut eastward of it. This canal extends of course to the sea, and the water now descends through it, over a sandy bottom, in a rapid and comparatively pure stream. Its channel is from twelve to fourteen feet broad, and four or five feet deep. The banks are formed as yet only of the soil that has been thrown up from the canal, but they could soon be consolidated, by bringing materials, which are plentiful at a short distance, and which one would imagine Ibrahim Pasha will immediately cause to be done, before the winter rains set in, and destroy them. The canal had only been completed fourteen days previous to our arrival, yet the effect it will have in drying up the swamp was already evident, by our having walked dryly over places that had been covered ankle-deep with water three weeks before. This was particularly the case near the town. It may be necessary to fill up the former drains, before the swamp can be thoroughly dried, or its land made fit for cultivation. A wall will also be required at the mouth of the canal, to prevent the sea rushing in. The inhabitants have already derived great benefit from having the comparatively pure water to drink which this stream affords; and, since the canal has been opened, Mr. M. assures me, there has been much less sickness in the town. The ships may likewise procure this water, and hence, probably, one of the main causes of mortality among their crews has been removed.

That the atmosphere of Iskenderoon is not so deleterious as it has been represented, may perhaps be inferred from the circumstance, that the marble monuments in the churchyard, exposed to the air, bearing the dates from 1682 to 1744, are free from the least collection of vegetable matter, and as pure in colour as when first erected.

Mr. Martinelli submitted his original plans to Ibrahim Pasha, who, having highly approved of them, directed the governor to furnish him with any number of persons he might require to carry them into execution. A body of four or five hundred labourers were accordingly placed at his disposal, and in three weeks, he having previously determined his levels, the canal was opened at the sea. But, as these labourers have not received any payment, Mr. M. has discontinued to employ them, though he has made Ibrahim Pasha fully acquainted with the present state of the canal, and what is yet required to be done. Mr. Martinelli was formerly in the military service of the former Pasha of Bagdad, and had



travelled through most parts of Mesopotamia, in Persia, and in Syria, and is a person of considerable attainments and intelligence.

If Iskenderoon, by the above-mentioned means, can be rendered a comparatively healthy spot, as it is acknowledged to be the safest bay for ships on the coast of Syria, it will probably again become the place at which the merchandise of Aleppo will be landed and shipped. The town should be rebuilt on the plain near the sources of the springs, a mile from the beach, where the air is pure, and the magazines and storehouses only be built by the water side.

The bay of Iskenderoon has not been altogether deserted by merchant-vessels since Mr. Martinelli has resided here. Seven English vessels from London and Liverpool, and two French from Marseilles, have discharged their cargoes. The imported goods are forwarded to Aleppo and Bagdad on camels. A caravan of seventy camels was dispatched with English merchandise while we were at Iskenderoon, which had been purchased by fourteen merchants of Aleppo, who intended sending the greater part of it as far as Bagdad. Mr. M. had sent off two hundred camels, also laden with British goods, about three weeks before; and, within the time of his residence, (fourteen months,) he had dispatched one thousand laden camels into the interior. The caravan takes five days to reach Aleppo, which is about thirty-six hours of a travellers ordinary rate of going. The British vessels bring manufactured goods, copperas, indigo, cochineal, and pepper, and receive in return, cotton, wool, gallnuts, dyes, and spices, and occasionally a considerable quantity of gold and silver, the gold in bars, and silver in masses. The last English vessel, Mr. Martinelli informed me, received specie on board to the amount of 800,000 francs. The present number of residents at Iskenderoon is about two hundred persons.

The town of Iskenderoon is now a mass of ruins. Though we saw plenty of cattle grazing near the town, we could only procure two small bullocks, and those with some difficulty. The people said their stock had been too much reduced of late, by having to supply the large bodies of soldiers who had passed by the town. A few fowls were purchased at a dear rate. The vegetables we obtained were onions, pumpkins, and brinjoes. No fruit was offered for sale, and we did not see any gardens near the town.

The longitude of our anchorage was  $35^{\circ} 12' 38''$  E., and the difference in time shewn by our chronometers, between this spot and the Arab's tower, Rhodes, long.  $0^{\circ} 31' 55.5''$ ; variation by amplitude,  $8^{\circ} 40'$  W.

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TABLE X.

*For reducing Antwerp feet to English, and English to Antwerp.*

1 Antwerp foot = 0·936986 English foot.  
1 English foot = 1·067252 Antwerp foot.

Antwerp or English Ft.	English Feet and Dec. parts.	Antwerp Feet and Dec. parts.	Antwerp or English Ft.	English Feet and Dec. parts.	Antwerp Feet and Dec. parts.	Antwerp or English Ft.	English Feet and Dec. parts.	Antwerp Feet and Dec. parts.
1	0·937	1·067	38	35·605	40·556	75	70·274	80·044
2	1·874	2·135	39	36·542	41·623	76	71·211	81·111
3	2·811	3·202	40	37·479	42·690	77	72·148	82·178
4	3·748	4·269	41	38·416	43·757	78	73·085	83·246
5	4·685	5·336	42	39·353	44·825	79	74·022	84·313
6	5·622	6·404	43	40·290	45·892	80	74·959	85·380
7	6·559	7·471	44	41·227	46·959	81	75·896	86·447
8	7·496	8·538	45	42·164	48·026	82	76·833	87·515
9	8·433	9·605	46	43·101	49·094	83	77·770	88·582
10	9·370	10·673	47	44·038	50·161	84	78·707	89·649
11	10·307	11·740	48	44·975	51·228	85	79·644	90·716
12	11·244	12·807	49	45·912	52·295	86	80·581	91·784
13	12·181	13·874	50	46·849	53·363	87	81·518	92·851
14	13·118	14·942	51	47·786	54·430	88	82·455	93·918
15	14·055	16·009	52	48·723	55·497	89	83·392	94·985
16	14·992	17·076	53	49·660	56·564	90	84·329	96·053
17	15·929	18·143	54	50·597	57·632	91	85·266	97·120
18	16·866	19·211	55	51·534	58·699	92	86·203	98·187
19	17·803	20·278	56	52·471	59·766	93	87·140	99·254
20	18·740	21·345	57	53·408	60·833	94	88·077	100·322
21	19·677	22·412	58	54·345	61·901	95	89·014	101·389
22	20·614	23·480	59	55·282	62·968	96	89·951	102·456
23	21·551	24·547	60	56·219	64·035	97	90·888	103·523
24	22·488	25·614	61	57·156	65·102	98	91·825	104·591
25	23·425	26·681	62	58·093	66·170	99	92·762	105·658
26	24·362	27·749	63	59·030	67·237	100	93·699	106·725
27	25·299	28·816	64	59·967	68·304	200	187·397	213·450
28	26·236	29·883	65	60·904	69·371	300	281·096	320·176
29	27·173	30·950	66	61·841	70·439	400	374·794	426·901
30	28·110	32·018	67	62·778	71·506	500	468·493	533·626
31	29·047	33·085	68	63·715	72·573	600	562·191	640·351
32	29·984	34·152	69	64·652	73·640	700	655·890	747·077
33	30·921	35·219	70	65·589	74·708	800	749·589	853·802
34	31·858	36·287	71	66·526	75·775	900	843·287	960·527
35	32·794	37·354	72	67·463	76·842	1000	936·986	1067·252
36	33·731	38·421	73	68·400	77·908	2000	1873·971	2134·504
37	34·668	39·488	74	69·337	78·977	3000	2810·957	3201·757



## VI.—THE RENEGADE.\*

OF all the little unhappy prejudices which in different parts of the globe it has been my fortune, or rather misfortune, to witness, I nowhere remember to have met with a deeper-rooted hatred, or a more implacable animosity, than existed, some twenty or thirty years ago, in the hearts of the Maltese towards the Turks.

In all warm glowing latitudes, human passions, good, as well as bad, may be said to stand at least at that degree which on Fahrenheit's scale would be denoted "fever heat;" and steam itself can hardly be more different from ice; the Bengal tiger springing on his prey, cannot form a greater contrast to that half-frozen fisherman, the white bear, as he sits on his iceberg sucking his paws; than are the passions of hot countries, when compared with the cold torpid feelings of the inhabitants of the northern regions of the globe.

In all parts of the Mediterranean, I found passions of all sorts very violent, but, without any exception, that which, at the period I refer to, stood uppermost in the scale, was bigotry. Besides the eager character which belonged to their latitude, one might naturally expect that the Maltese, from being islanders, would be rather more ignorant and prejudiced than their continental neighbours; however, in addition to these causes, when I was among them, they really had good reason to dislike the Turks, who, during the time of the knights, had been *ex officio* their constant and most bitter enemies.

Whether these fine valiant knights of Jerusalem conquered the Turks, or were defeated, the Maltese on board their galleys (like the dwarf who fought with the giant) always suffered: besides this, their own little trading-vessels were constantly captured by the said Turks, the crews being not only maltreated and tortured, but often in cold blood cruelly massacred; in short, if there was any bad feeling in the heart of a Maltese, which the history of his island, as well as every bitter recollection of his life, seemed naturally to nourish, it was an implacable hatred for the Turks; and, that this sad theory was most fully supported by the fact, became evident the instant one observed a Maltese, on the commonest subject, utter that hated, accursed word, "*Turco*," or Turk. The sort of petty convulsion of the mind with which this dissyllable was delivered, was really very remarkable, and the roll and flash of the eye—the little bullying shake of the head—the slight stamp of the left foot—and the twitch in the fingers of the right hand, reminded one for the moment of the manner in which a French dragoon, when describing an action, mentions that his regiment came on "*sabre à la main*!" words which, if you were to give him the universe, he could not pronounce without grinding his teeth, much

\* From a delightful little work, noticed in our last volume, entitled, "*Bubbles from the Bruunens of Nassau*," published by Murray.



less with that cold-hearted simplicity with which one of our soldiers would calmly say, "sword in hand."

This hatred of the Maltese towards the Turks was a sort of cat and dog picture which always attracted my notice; however, I witnessed one example of it, on which occasion I felt very strongly it was carried altogether beyond a joke.

One lovely morning, I remember it as if it were yesterday, there had been a great religious festival in the island, which, as usual, had caused a good deal of excitement, noise, and fever; and, as a nation seldom allays its thirst without quarrelling, as soon as the hot sun set, a great many still hotter disturbances took place. In one of these rows, a party of Turks, justly or unjustly, became offended with the inhabitants; an affray occurred, and a Mahometan having stabbed a Maltese, he was of course thrown into prison; and, in process of time, surrounded by a strong guard, he was led into the Maltese court to be tried (*Anglicè*, condemned) for the offence. As he threaded his way through the crowd which had assembled in those dirty passages and dark chambers that led to the tribunal, the women shrunk back as the "*Turco*" passed them, as if his very breath would have infected them with the plague; while, in the countenances of the men, as they leant forwards, arresting him in his progress, and almost touching him with their brown faces, it was evident that they were all animated with but one feeling, and one desire, that is to say, hatred and revenge: however, nothing was heard but a very slight murmur, or groan, and the prisoner was soon seen a little raised above the crowd, trembling at the bar. He was a diminutive, mean-looking, ill-favoured little fellow, dressed in the loose Turkish costume, with a very small dirty white turban, the folds of which were deemed more odious to the Christian eye than if they had been formed by the wreathing body of the serpent. While the crowd were shouldering each other, head peeping over head, and before the shuffling of moving feet could be silenced, *avvocati*, or clerks, who sat in the small space between the prisoner and the bench, were seen eagerly mending their pens, and they had already dipped them into ink, and the coarse, dirty, rough-edged paper on which they were to write was folded, and placed in the front of them, before it was possible to commence the trial.

The court was insufferably hot, and there was such a stench of garlic, and of clothing impregnated with the stale fumes of tobacco, that one longed almost as much as the prisoner to escape into the open air, while the sallow faces of the *avvocati*, clerks, and every one connected with the duties of the court, shewed how unhealthy, as well as offensive, was the atmosphere which they breathed. On the bench sat what one must call the judges, but to an English mind such a title but ill belonged to those who had only lately been forced, most reluctantly, to expel torture from their code. Just



before Malta fell into the hands of the French and English, my own servant, Giuseppe, had lived in the service of one of the Maltese judges; and, among many horrors which he often very calmly described to me, (for he had witnessed them until he had become quite accustomed to them,) he told me that he had constantly to pass through a court in which were those who were doomed to ride upon what was called the "cavallo di legno," or wooden horse. With weights attached to each foot, he used to see them sitting bolt-upright on this sharp narrow ridge, with two torches burning within a few inches of their naked chests and backs, in order that they should relieve themselves by a change of attitude no longer than they could endure the pain of leaning against the flame. But, to return to the court.

The trial of the Turk now began, and every rigid form was most regularly followed. The accusation was read, the story was detailed, the Maltese witnesses, in great numbers, one after another, corroborated almost in the same words the same statement; several times, when the prisoner was ordered to be silent, as by some ejaculation he interrupted the thread of the narrative, did the eyes of every being in court flash in anger and contempt upon him, their countenances as suddenly returning to a smile as the evidences of the witnesses proceeded with their criminatory details. At last, the case being fully substantiated, the culprit was called upon for his defence. Although a poor, mean, illiterate wretch, it is possible he might have intended to have made a kind of a sort of speech; but when he came to the point, his heart failed him, and his lips had only power to utter one single word.

Regardless of the crowd, as if it had not existed, looking as if he thought there was no object in creation but the central judge on the bench, he fixed his eyes for some moments upon his cold, sallow, immovable countenance, until, overpowered by his feelings, almost sinking into the ground, he clasped his hands, and, in an agony of expression which it is quite impossible to describe, he asked for "MERCY!"

"*Nix standy! I don't understand ye!*" said an old English soldier one day, in the *Bois de Boulogne*, to a French general, who, with much gesture and grimace, was telling him in French, that the English were acting against the laws of nations in thus cutting down so beautiful a forest as the said *Bois de Boulogne*. "*Nix standy!*" repeated the ruddy-faced soldier, continuing to hack with all his might at the young tree, which he had almost cut down with his sabre. The very same answer was strongly expressed in the countenance of the judge, to the petition of the unhappy Turk, who, had he been in the desert of Africa, might just as well have asked merely for the ocean, as, in a Maltese court, to have supplicated for *mercy*. For some time the judge sat in awful silence, then whispered a few words to his colleagues; again all



was silent : at last, when some little forms had been observed, the chief judge pronounced a sentence on the prisoner, which he might just as well have done without his having endured the pain and anxiety of a long trial. It is hardly worth while mentioning the sentence ; for, of course, it was that the Turco, being guilty of the murder of the Maltese, was to be hanged by the neck till he was dead ; every word of which sentence was most ravenously devoured by the audience : and the trial being now over, the prisoner was hurried away to his dungeon, while the crowd eagerly rushed into the hot sunshine, and open air.

A very considerable time elapsed between the sentence and the day fixed for execution. Where the prisoner was, what were his feelings, how he was fed, "*and how he fared, no one knew, and no one cared* ; however, on the last day of his existence, I happened to be riding along Strada Forni, when I heard a bellowing sort of a blast from a cow's horn, which I instantly knew to be the signal that a fellow-creature was going to the gallows. In any country in the world the monotonous moan which proceeds from this wild uncouth instrument would be considered as extremely harsh and disagreeable ; but at Malta, where the ear has been constantly accustomed to good Italian music, and to listen to nothing more discordant than the lovely and love-making notes of the guitar, this savage whoop was indescribably offensive, particularly being accompanied by the knowledge that it was the death-march and the dirge of the murderer—"the knell that summoned him to heaven or to hell !"

As I rode towards Strada Reale, the principal street of Valetta, down which the procession was proceeding, a dismal blast from this horn was heard about every ten seconds ; and, as it sounded louder and louder, it was evident the procession was approaching. At last, on coming to the corner of the street, I saw the culprit advancing on his funeral car. The streets on both sides were lined with spectators, and every window was filled with outstretched figures and eager faces. In the middle of Strada Reale, preceding the prisoner, were three or four mutes ; while several others were also begging in different parts of the town. These people, who belonged to some of the principal Maltese families, were covered from head to foot with long loose robes of white linen, a couple of holes being cut for their eyes. Their feet were bare, and to each ankle was affixed a chain, of such weight and length, that it was as much as they could do to drag one leg after the other. In the right hand they held a tin money-box, in the shape of a lantern, with death's head and bloody bones painted upon it. A small slit in this box received the copper contributions of the multitude ; and, as these mutes passed me in horrid triumph, shaking the box every step they took, (the rattling of the money forming a sort of savage accompaniment to the deep clanking of their chains,) they had



altogether an unearthly appearance, which certainly seemed less to belong to heaven than to hell; however, the malefactor now approached, and as soon as he came up to the corner of my street, I, loosening my rein, rode for a few moments at his side, attracted by one of the strangest scenes which I think I have ever beheld. The man was half-sitting, half-reclining, on a sort of low, rattling, iron vehicle, of an indescribable shape, which raised his head a little above the level of the people; and, the very moment I looked him in the face, much of the secret history of what had passed since the day of his condemnation was as legible in his countenance as if it had been written there. He had been existing in some dark place, for his complexion was blanched by absence from light; he had evidently been badly fed, for there was famine in his sunken features; his nerves were gone, for he was trembling; his health had materially been impaired, either by suffering of body or mind, for the man was evidently extremely ill; and, last, though not least, for some mysterious reason, either from an expectation of obtaining mercy in this world or in the next, he had evidently abjured his religion, for his dirty white turban was gone, and, very ill at his ease, he sat, or rather reclined, in the clothes of a Christian!

The car on which he proceeded was surrounded by an immense number of priests, belonging to the different churches of Valetta, and apparently to those also of all the *casals* and villages in the island. All angry feelings had almost completely subsided; in their minds, as well as in the minds of the people, the day was one only of triumph and of joy; and, intoxicated with the spirit of religious enthusiasm, the priests were evidently beside themselves with delight at having succeeded in the miraculous conversion which they had effected. Shouldering and pushing each other with all their strength, with outstretched arms, and earnest countenances, they were all, in different attitudes and voices, calling upon the malefactor to repeat the name of their own particular saint; some behind him were trying to attract his notice, by pulling his clothes, while those before him, by dint of voice and gesture, were equally endeavouring to catch his eye; and such a confused cry of "Viva San Tommaso!" "Viva San Giuseppe!" "Viva San Giovanni!" "Viva San Paolo!" I will not pretend to describe. It was, of course, impossible for the wretch to comply with all their noisy demands; yet, poor fellow, he did his best; and, in a low faint voice, being dreadfully exhausted by the jolting and shaking of the carriage, he repeated, "Viva San Paolo!" &c. &c., as he caught the eye of the different priests. He had evidently no rule in these exclamations which he uttered, for I observed that the strong brawny-shouldered priests who got nearest to him, often made him repeat the name of their saints twice, before the little bandy-legged ones in the rear could get him to mention theirs



once. As this strange concert proceeded, it was impossible to help pitying the poor culprit ; for, if one had been travelling from one magnificent palace to another, to be so jolted and tormented both in body and mind when one was ill, would by any of us have been termed dreadfully disagreeable ; but for all this to happen to a man just at the very moment he was going to be hanged—at that moment, of all others, in which any of us would desire to be left, at least for a few seconds, to his own reflections—appeared at the time to be hard indeed. After passing under the great gate, and subterranean exit called *Porta Reale*, the procession wound its way across the drawbridges, and along the deep ditches, &c., of the fortification, until coming out upon the great esplanade which lies between *Valetta* and *Floriana*, an immense crowd of people was suddenly seen waiting round the gallows, at the sight of which I pulled up. The priests were now more eager than ever in beseeching the criminal to call upon the name of their saint ; the mutes, whose white robes in all directions were seen scattered among the people, were evidently shaking their boxes more violently than ever, while among the crowd there was a general lifting of feet, which shewed the intense anxiety of their feelings.

As the procession slowly approached the gallows, I could not hear what was going on ; but in a very short time, from the distance at which I stood, I saw the man led up the ladder by the executioner, who continued always a step or two above him : the rope was round his neck, and, resting loosely on the culprit's head, there was something like a round wooden plate, through a hole in the centre of which the rope passed. As soon as the poor creature got high up on the ladder, the vociferations of the priests suddenly ceased ; for a few seconds, a dead silence ensued, when, all of a sudden, there was a simultaneous burst or shriek of exclamation from priests and populace, echoing and re-echoing the words, "*Viva la Cristianità !*" which the man, in a low tone of voice, had just been persuaded to utter. All caps waved, every human being seemed to be congratulating each other on the delightful conversion ; and no person appeared to pay the slightest possible attention to the poor wretch, who, with the last syllable on his lips, had been pushed off the ladder, and was now calmly swinging in the air, the executioner standing on the loose wooden plate above his head, holding by the rope, and, with many antics, stamping with all his force, to break the neck, while the people, in groups, were already bending their steps homewards. Not wishing to encounter such a crowd, I turned my horse in another direction, and passed a number of mules and asses belonging to many of the people who had come from the most remote casals to see the execution. The animals were all standing half asleep, nodding their heads in the sun—a herd of goats were as quietly grazing near the ramparts ; and when I contrasted the tranquillity which these



animals were enjoying, with the scene I had just witnessed, I could not help feeling that I had more cause than Virgil to exclaim—  
“*Sic vos non vobis!*”

In returning from my ride, I had to cross the esplanade, and as there was then no one at the gallows, I rode close by it. The figure, which was still hanging, was turning round very slowly, as if it were roasting before the sun; the neck was so completely disjointed, that the head almost hung downwards, and, as I rode by it, I was much struck in observing that the tongue was out of the mouth, half bitten off—a dreadful emblem, thought I, of a renegade to his religion! Whether or not the poor wretch had been induced to utter his last exclamation, from a hollow promise that it would save his life, is a mystery which will probably never on this earth be explained to us; however, whatever was his creed, it is impossible to deny that when he swung from this world to eternity, he had but little reason to admire the practical part of a Roman Catholic's mercy, however beautifully and unanswerably its theory might have been explained to him.

As soon as I got to Valetta, I put up my horse, and, strolling about the streets, soon found myself in the immense church of St. John, which, in point of size and magnificence, is only second in the world to St. Peter's at Rome. The congregation was almost exclusively composed of the people who had attended the execution; and quantities of men, as well as women, semi-shrouded in their black silk faldettes, were listening to a tall, strong-looking Capuchin friar, who, with great emphasis, was preaching from a high pulpit, placed at a projecting angle of one of the many chapels which ramified from the aisle or great body of the church. He was a remarkably handsome man, of about thirty, and, though his face was pale, or rather brown, yet his eye and features were strikingly vivid and intellectual; a rim or band of jet-black curly hair encircled his head, the rest of his hair, by a double tonsure, having been shaved at the top, and from ear to ear; his throat was completely uncovered, and, as he suddenly turned from one part of his congregation to another, his earnest attitudes were very beautiful. His brown sackcloth cowl rested in folds upon his shoulders, and the loose negligent manner in which a cloak of the same coarse material hung upon his body, being apparently merely kept together by the white rope, or whip of knots, which encircled his waist, displayed a series of lines which any painter might well have copied; indeed the whole dress of the Capuchin has been admirably well imagined, and, above all others, is it calculated to impress upon the mind of the spectator that its wearer is a man doomed to abstinence and mortification, seeking no enjoyment on this side of the grave, and never lowering his eyes from heaven, but fervently to exclaim—

“Vain pomp and glory of the world, I hate ye!”



The subject of the sermon was, of course, the execution which we had all witnessed. The hard-hearted infidelity of the Turks was very richly painted and described, and the crime which they had just seen expiated was clearly proved to be the effect, and the natural effect, of a Mahometan's anger. The happy conversion of the infidel then became a subject which was listened to with the most remarkable stillness, and every eye was riveted upon the mouth of the Capuchin, as he minutely detailed the triumph and the conquest which had been made of the sheep which had that day, before their eyes, been added to the flock. He then explained, or endeavoured to explain, (for it was no very easy task,) that the money which had that morning been collected for the purchase of masses, proved to be just sufficient to purify the soul of the departed sinner; but this, he very eloquently demonstrated, was only to be effected through the mediation of one whose image nailed to the cross was actually erected in the pulpit on his right hand. After expatiating on this subject at considerable length, working himself and his hearers into a state of very great excitement, with both his arms stretched out, with his eyes uplifted, he most fervently addressed the figure, exclaiming in a most emphatic tone of voice—" *Si! mio caro Signore! Si!*" &c. The effect which was instantly produced in the hearts of his hearers was very evident, and the fine melodious voice, together with the strong, nervous, muscular attitude of the preacher, contrasted with the drooping, exhausted, lifeless image above him, would have worked its effect upon the mind of any Christian spectator.

As soon as the sermon was over, the congregation dispersed. The day ended in universal joy and festivity; no revengeful recollections, no unkind feelings were entertained towards him who had been the principal actor of that day; on the contrary, the Maltese seemed rather to feel, that it was to him they were especially indebted for the pleasurable performances they had witnessed, and thus—

"In peaceful merriment ran down the sun's declining ray."

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## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**LUNI-SOLAR AND HORARY TABLES**, with their Application in NAUTICAL ASTRONOMY, containing an easy and correct Method of finding the Longitude by Lunar Observations and Chronometers; the Latitude by double altitudes and elapsed time, the Azimuth, Amplitude, and true time, according to the spheroidal figure of the Earth. By Janet Taylor. London. Published by Longman, Rees, Orme, Brown, Green, & Longman. 1833.

THE science of navigation is advanced in two ways. The first is by the labours of mathematicians, who may from time to time discover new methods of solution, or improve the old ones, or suggest entirely new problems: in this way much does not now seem likely to be done. The other is by setting forth what is already known, in such a manner as to make it either better understood, or more widely extended, that is, to *raise the standard of practice*; in this way, we think, much yet remains to be done, although this has always formed part of the avowed object of writers.

There is obviously an entire difference between the navigator and the mere worker of problems in navigation; the latter indeed does as the rule tells him, but no more; and consequently when his observations do not agree, he knows not to which of them to attach the greater credit. The former, with perhaps no more science than the latter, learns by the exercise of reflection to time his observations properly, and to judge truly of their value. It is for this class, therefore, we think, that writers should study to adapt their works.

We are of opinion, that it is not spherical trigonometry, nor the theory of logarithms, and so forth, that constitutes the able navigator; in other words, that it is not his knowledge of the construction of the rules, but the judicious use he makes of them: for, in the cut-and-dried operations of an azimuth, or a time, for instance, all vestige of the elements or principles of the matter is lost sight of, alike to the practical man and the mathematician, who, having deduced his formula, troubles himself no more about the means of getting at it. Accordingly, we think that to raise the standard of practice, it is unnecessary either to throw the navigator back on useless investigations of his rules, or to call for extra scientific attainment, but by merely taking advantage of what he already knows, namely, such scientific terms and processes as every one who practises navigation must be familiar with, he might be made to attain a greater proficiency in his art, and thereby to extend his practical utility.

We should be the last to underrate the value of scientific attainments; all we contend for is, that no investigations of the ready-made rules can advance the practice of the navigator one jot, but that, under judicious guidance, he might with his present attainments be made to achieve more than is at present expected from him.

It may, perhaps, be attributed to some indistinctness or confusion of this kind, between what is purely mechanical and what depends on the science of the computer, that the course of works on the subject is ever interrupted by theoretical explanations. We hold that there should be as far as possible a complete separation of the mechanical practice from all attempts at *rationale*.



Nautical operations have often to be conducted in cases of urgency and anxiety, when the computer has no desire to enter into any matters that lie across the straight cut to the result. There should also be the like complete separation in matters of detail, that the computer be not obliged to read through a quantity of matter that he does not want, in search of what he does. But it is not, as we observed, the working of the problem, but the application or use made of it, wherein lies the art of navigation; therefore it is not the number of problems, or the variety of their solutions, that the seaman wants, but useful information respecting them, and the reason why he is to prefer one mode of solution to another. Thus, for one instance, he should be told, that, in low latitudes the time can be found by the sun when near the meridian, as well as in high latitudes when at great distance from it. It is true, many intelligent minds may find this out when they get there; but if they do not, opportunities of sights for chronometers will often be lost. And, as to variety of solution, those who are ravenous in this respect may make a pretty tolerable collection, for, in Delambre's *Astronomy* they will find (if we recollect rightly) *sixty* for the lunar alone.

Again, the economy of time and labour should be strictly observed, and the proper degree of accuracy distinctly pointed out. What useful end can be answered (we speak only of general purposes, of course) by working to the same indiscriminate degree of accuracy an azimuth and an occultation?

The advocates for this waste of time and labour justify it on the ground of general habits of accuracy, but we take leave to observe, that the exercise of the judgment, in discriminating between what is necessary and what is useless, and the consequent habit of perceiving the relative importance of accuracy in the *data*, and which no monotonous drudgery can ever teach, is a quality of a far higher order than performing to perfection in any such horse-in-a-mill routine. This disproportionate accuracy is, in general, inconsistency arising from want of thought; thus the stickler for minutes of a degree in working the ship's course, lumps, without scruple, courses and distances in his own watch by wholesale. As a particular example of degrees of accuracy, suppose the distance of the *Lizard*, found by logarithms, to be 50 miles; then, if the log. be wrong by *unity* in the *seventh* place, the error in distance will be *two barleycorns*. What a source of comfort must a table to 7 places be to a scrupulous computer! If the log. is wrong (by 1,) in the *sixth* place, the error in distance is *seven inches* and *one barleycorn*; if in the *fifth* place, 6 feet 11 inches; if in the *4th* place, 69 feet 1 inch, (which is about two-thirds of one second of lat.); and if in the *third* place, 692 feet, or a cable's length and more. On the other hand, when scrupulous accuracy is required, the seaman should be directed to certain observations in preference to others, as, for example, to a azimuth instead of an amplitude, for the variation; but for want of precise instructions on the point of proportionate accuracy, he is naturally led to infer that working to hairs-breadths will meet deficiency of judgment in selecting, or in making, the observations. The economy of labour reminds us that the first work in navigation, here or abroad, in which the courses were directed to be corrected for variation in a lump, (the variation being supposed constant for 24 hours,) was Mr. Riddle's in 1824, and this brings us to the logboard, on which we may observe that it would be an improvement, or rather, we might say, the rejection of an anomaly, if the knots were divided into 10ths instead of 8ths, as the *Traverse* table has ever been, and the awkward division by 8 thereby got rid of. Even if at first the 8th and 10th were constantly confounded, the error would not be felt, being only  $\frac{1}{10}$  of a knot, and this would as often tell one way as the other. Both this notation of tenths, and the above wholesale correction for variation,



were practised by Captain Beaufort, and the officers under him, upwards of twenty years ago; so slowly does common sense make head against the joint opposition of custom and ignorance.

Another point which might be recommended in sea practice, if it were worth while to change a system that works well enough, is working tenths of a minute, (or 6") as the limit of accuracy, instead of single seconds. Seeing that a second of lat. is about half the length of the lower deck of a line-of-battle ship, and that altitudes at sea cannot be depended on to nearer than 1 or even 2 miles, little can be said for the necessity of single seconds, except in the lunar distance, because 1" in this, is, at the equator, about as much as 30" of lat. on the average, though less in higher latitudes. The convenience of taking out tenths from the tables is easily seen on trial; and tables for use at sea, and indeed, we may add, on land also, might be arranged with differences accordingly. Neither is this strange doctrine, nor the presumptuous interference of a reviewer, but comes like the former recommended on the best authority, having been constantly practised by Captain W. F. W. Owen and his officers.

We have more to say on this subject, than room to say it, but we cannot refrain from noticing what appears to us no favourable symptom of the present state of navigation, as a practical science,—we mean the multitude of tables that spring up on all sides for every conceivable purpose. Now, we hold that the use of tables is to save that portion of drudgery which is the same in different operations, but by no means to supersede the use of the reasoning faculties, nor to reduce their possessor to a state of imbecility almost as bad as that of a man who can read out of only one book. That navigator alone deserves to be considered as master of his trade, who is independent, as far as the subject admits of it, on *external* aid; and the multiplication of such aids beyond the reasonable limits of a few necessary and convenient tables, which may be met with every where, cannot but tend to reduce him who indolently trusts them, to a state of helpless dependence on the safety of his chest, instead of the resources of his mind.

Tables intended to supersede regular operations by mere inspection would require, in order to answer that purpose completely, to be carried to an extent altogether impracticable; hence, the mere taking out of the results must always demand a portion of time and labour, which we unreservedly consider as an absolute perversion of employment, because the habit of dexterity acquired, and the proficiency attained, are utterly useless for every other purpose. Shepherd's ponderous lunar tables still exist as a monument of labour thus thrown away.

These observations we have here recorded, because the works which successively appear on this subject do not quite come up to our estimate of what the best work would be, namely, that which would combine the maximum of intelligence with the minimum of labour.

The work before us being the production of one of the fair sex, and, we believe, a first effort, disposed us to treat it, as in gallantry we were bound to do, with every indulgence, and therefore we resolved not to notice where we should only condemn. This consideration we felt to be the more gratuitous on our part, not only from the manner in which this lady, under a few expressions of diffidence, opens fire on other writers, but from the censure which she herself in various places pronounces on all those who lead mariners into error on the most important of all the sciences. We were also not without hope that afterthought and further practice might discover, and when it had discovered might correct, the fanciful errors which pervade the work; but as time rolls on, and the errors are unredeemed, the position we occupy, and our desire to render ourselves in every way worthy of the increasing confidence of



the nautical world, render further reserve on our part, especially on a matter of so much consequence as the navigation of ships, a neglect of the duty of our station. We do not, indeed, affect any alarm at wrong opinions getting much weight amongst experienced persons, but from the confident tone of this lady, and from her own belief, as stated in p. 36, "that they into whose hands such works usually pass, place unbounded confidence in the authors, therefore they cannot be too cautious," &c., it is barely possible that novices, or schoolboys, whose parents think the last new book must be the best, might be misled.

The authoress admits, in her preface, that "her predecessors did as much as the lights of their day, no doubt, had warranted." We believe they did, and if she had adhered to the same prudent limitation, we should have heard nothing of spheroidal figure. These phrases "lights of the day," &c., we by no means lay to the account of the authoress; they are the cant of the age, and those who catch the infection talk as if the mere circumstance of being born in these days made them heirs to a kind of unerring instinct of discovery, by which they are sure to hit on the truth and avoid the error.

The chief point on which the writer claims the honour of having advanced the wisdom of the age, is the reduction of observations on account of the spheroidal figure of the earth. We are not going to enter here on abstruse considerations, we luckily have no need of them. We take it for granted that the navigator who is aware that the earth is not a sphere but an oblate spheroid, knows also that the latitude of a given place would not be the same for these two different figures, and we need only remind him that all his astronomical observations, when properly taken and worked, invariably concur in fixing him in the same *astronomical latitude*.

Now there is a *constant difference* in the same latitude between this astronomical latitude and the *geocentric latitude*, or what the sphere would show. It is, therefore, self-evident that a correction which applies alike to all observations for latitude were better rejected altogether; and if navigation had hitherto been hampered by such corrections, would it not, on the contrary, be a most praiseworthy clearance to omit them?

Nobody, we imagine, would run his ship ashore in his zeal to verify a new doctrine, when the old one has hitherto kept him afloat; but it certainly was incumbent on a writer recommending a change in *every latitude found*, to give in the same book a list of latitudes changed on that plan, for a correction amounting in these latitudes to a matter of ten miles, might, if the master were fool enough to try it, and a fog came on, stick an unfortunate coaster high and dry.

Passing over the obscurity with which the latitude by meridian altitude is overspread, we will consider the double altitude. Now, even if the correction were necessary, which it is not, Mrs. Taylor goes the wrong way to work to make it. Her rule directs each altitude to be corrected for spheroidal figure, and then the resulting latitude, worked in the usual ways, will be the geocentric latitude. Will it? When the body is nearly E or W, the correction in altitude is *nothing*, hence the astronomical and geocentric latitudes would in certain cases come out identical, which they never can be.

Now for the time observation, p. 31. The rule directs both latitude and altitude to be corrected for spheroidal figure. By an unaccountable inconsistency, the writer works by the old method to *seconds*, and by her new one to *minutes*, and then holds up 1" as the trophy gained on the occasion. It is needless to comment further on the rule or the example.\* Time is an angle at the pole, and if the earth had, were it possible, a dozen centres of gravity, so that the plumb-line or spirit level had as many directions as the stalks in a



heap of straw, each place would have its own time as independently of the general figure of the earth, as the latitude of the Cape of Good Hope is of the burning of the houses of parliament.\*

The cases here cited are indeed sad instances of the effects of hurrying a scientific work to oblige a few friends, (Preface, p. 8,) and we are willing to ascribe such oversights to that cause. We should sincerely regret that any criticism, however well founded for the time, should have the effect of discouraging a zeal so uncommon and so praiseworthy as that shewn by a lady who engages in these pursuits. But we are of opinion that Mrs. Taylor has ventured, on the present occasion, rather beyond her depth, and we hope, accordingly, that she will consider the remarks here offered, as a rope thrown to her in time; and we recommend her, when she publishes a second edition, to look well about her, not only by a diligent examination of the works of the day, but of those of many years ago. She would do well also to submit her next work to the scrutiny of some competent person, for, had this been done in the present case, it is impossible that such errors could have vitiated the work.

### LLOYD'S REGISTER OF BRITISH AND FOREIGN SHIPPING.

Nathaniel W. Symonds, Secretary. London, June 1834. C. F. Seyfang, Farringdon-street.

It is universally admitted that the prosperity of Britain depends upon her commerce. The improvements therefore of the instruments by which commerce is carried on becomes a subject of the utmost importance, not only as the means of carrying it on more economically, but, in so far as merchant ships are those instruments, in the further and important view, as the nursery, in which is reared those individuals to whom Great Britain must look, not only for the means of extending her commerce, but also for protection from foreign aggression. As has been well expressed, "Whoever commands the sea, commands the trade; whoever commands the trade of the world, commands the riches of the world, and consequently the world itself. The command of the sea is not, however, to be obtained by the number of our ships, or the skill and courage of our seamen alone; it depends also upon the condition and fitness of the vessels which they navigate, and the preponderance of trade is preserved, not by enterprise only, but by conducting commerce in the most efficient manner, and on the most economical principles." With these introductory remarks, we shall proceed at once to the subject under review.

\* That the two corrections for latitude and altitude do not accidentally but necessarily destroy each other, is thus demonstrated for the satisfaction of the mathematical reader. The variation of the hour angle, ( $P$ ), caused by variations in co-latitude ( $c$ ) and zenith dist. ( $z$ ), in the  $\triangle PZS$ , is the sum of the partial differentials of  $P$  with respect to  $c$  and  $z$ , or

$$\left(\frac{dP}{dc}\right)dc + \left(\frac{dP}{dz}\right)dz$$

Let  $\lambda$  be the correction which reduces the astronomical to the geocentric latitude, then  $dz = \cos Z dc$  (the  $\angle P$  being constant)  $= \lambda \cos Z$  nearly, and since

$$\frac{dP}{dc} = -\frac{1}{\sin c \tan Z}, \text{ and } \frac{dP}{dz} = \frac{1}{\sin c \sin Z}$$

putting for  $dz$  the above value, renders the two terms identical, with opposite signs.

Now nothing is gained by going on to higher differentials, because the same result will always follow. Hence the proof is complete in consequence of assuming  $dz = \lambda \cos Z$ , without sensible error, which is implied in the correction of the altitude.

The only astronomical observation of those which she discusses that is sensibly affected by spheroidal figures is the lunar distance, as has already been pointed out by other authors.



The world has treated the opinion of Shylock that, "ships were but boards," and of Dr. Johnson, that "a ship was at best but a prison with only one plank between life and death," with far too much levity. Both these individuals displayed the most minute and accurate acquaintance with and knowledge of ship-building as it then was, and as it is handed down to us 'unaltered to the present. They might have expended volumes in the description, but they could not have done it more accurately, nor in fewer words. Lest any person should doubt the accuracy of the description, as applicable to the case of the present day, we beg to quote from page 6 of the publication under notice. "Thickness of plank to be as under. Outside, from bilge to keel, for ships of "150 tons burthen 2½ inches; and for vessels of 500 tons burthen, 3 inches." Now, the reader, who may not be acquainted with the terms of naval architecture, should be informed, that this outside plank, from bilge to keel, means the casing or covering of the ribs or timbers of the bottom, and is the boards alluded to by Shylock, and the planks alluded to by Dr. Johnson, and forms the *only substance* between life and death, in all merchant vessels. Again, as to the construction of the ribs or timbers themselves, it must be obvious, even to the least considerate, that if a carpenter was putting a roof on a dwelling house, warehouse, church, or other building, and joining only every alternate set of rafters together at the top, that any rafters put in and not joined together would not only not add any thing to the strength of the roof, but would actually subtract from it, by the amount of their own weight. "Then, if we apply this construction to the new regulations under notice, we shall find it coincide most closely. We quote again from page 4. "Every alternate set of timbers to be framed and bolted together." Framed means joined, so that every alternate set of timbers may be put in without being joined together, and of course when a vessel is building, were it not for the outside covering of them, which supports their weight, by the fastenings to the adjoining timbers, they would actually tumble out of the vessel, from the mere effect of their own weight. Our limits will not admit of going minutely through all the different descriptions of the labour and material required to be employed, to place a vessel in the eight different grades of the first class,—and the causes of lapsing into the second description of the first class, nor of the requisites for restoration to the first description of the first class;—nor do we conceive it necessary, since, if our mechanical knowledge be not at fault, the tendency of the whole rules and regulations is to produce a *minimum* of strength from a *maximum* of material. As the uninitiated reader may be at a loss to account for this, we quote the following passage from a petition from the inhabitants of Edinburgh and its vicinity, which was lately presented to the House of Commons by Mr. Abercromby.

"That the remote but influential cause of the frail and perishable construction of the mercantile navy appears to be the pernicious influence exercised over the commercial interests, by the Sea Insurance Companies.

"Ever since the art of ship-building arrived at its present pitch of perfection as exhibited in the Royal Navy, insurances have been a great evil, inasmuch as the policy of insurance brokers has been to retard, if not altogether to prevent, the application of similar scientific improvements in the construction of the mercantile marine. Were trading ships made as safe and durable as ships of war, there would be an end to sea insurances, and with them the gains of underwriters. If a ship be knocked to pieces, the ship-builder has no cause to mourn: another is ordered in its place as weak and fragile as its predecessor. Nor does the owner suffer, the vessel being generally insured for much above her actual value. The merchant, too, is relieved from all anxiety, his cargo being guaranteed in a similar manner. Thus, let the destruction of shipping



be what it may, the premiums being always so enormous, the insurance brokers, in the end, constantly derive an advantage; and as the loss of every vessel diminishes the supply of goods in the market, the price of commodities necessarily rises, and the final loss, as usual, falls on the consumers. Hence these great stakeholders, the underwriter, ship-builder, ship-owner, and merchant, not only manifest indifference to shipwrecks, but, under pretence of classification of merchant shipping, have apparently taken the most effectual measures to prevent safe vessels being built."

It is not necessary further to notice Lloyd's Register, than to observe that the whole system appears to have been misunderstood, and that the effect of it must be (whatever the intention may have been) to encourage the building of unsafe merchant ships, and to discourage the building of those of superior safety.

The scale at the end, for ascertaining the proportionate dimensions of scantlings, &c. of vessels, is well executed, but we think it might have been still more explanatory. The official charge made (in other words, the price of the work) being ten shillings, we conceive must be intended as a source of revenue to keep up the system, and not as a *quid pro quo* for value received. The execution is good; but we apprehend that ten shillings for fourteen pages of print will be considered a dear pennyworth.

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#### THE NEW NAUTICAL ALMANAC FOR 1835.

A work of the above title, compiled by Mr. John Herapath, has just been published by Whittaker & Co. Though it is a matter of surprise and regret, that Mr. Herapath should have so avowedly and injudiciously acted in direct opposition to the law, some considerable improvements and additions were naturally looked for by such persons as had no previous means of judging of the extent of that gentleman's information on the practical subjects of astronomy. It is, however, evidently almost wholly extracted, without acknowledgment, from the "Nautical Almanac." The only interesting novelties are to be found in Mr. H.'s unrestrained and overweening sentiments on the superior merits of his own unimportant additions, and a weak pretension of having discovered "singular discrepancies" in the eclipse of the moon for June 10, "as calculated by the Nautical Almanac, the *Connaissance des Temps*," and himself, which may prove a source of some garrulous amusement amongst astronomers and navigators. At page 112 he says, "Most extraordinary differences exist in the times of this eclipse, as given in the *Connaissance des Temps*, the *Nautical Almanac*, and this Almanac. How there can be so great a difference between our times and the Nautical Almanac's I cannot imagine, as we calculate from very nearly the same elements. I shall here lay the three calculations before my readers, premising that I have made no allowance for the elliptic figure of the earth, nor for the atmosphere, which I presume is the case with the other works."

Would it not be more proper for Mr. Herapath, instead of premising that he had made no such allowances, to have at least tried them, before he subjected his mathematical mind to the vague conclusion, that the discrepancy was of a "singular" kind? Had he condescended to take these allowances into consideration, he would have arrived at the results given in the Nautical Almanac; but this, which would have suggested itself to the most common understanding, was either above his comprehension, or contrary to his design.

It would be illiberal to charge Mr. H. with dishonourable views, without sufficient evidence, but when we observe the deceptive title, "THE New



Nautical Almanac," and read at the commencement of his preface the bold assertion, that "the work under the direction of the English Government" had "so increased in size, and consequently in price," knowing, as he must have done, that, though that work had been made to contain the admirable improvements and additions suggested by the Royal Astronomical Society,\* the price had not increased, what construction is to be given of the motives that gave rise to such expressions? Ignorance might be pleaded, but the work so abounds with a similar spirit, that such a plea could only be received as a mere pretence. We may judge of the reliance that is to be placed on his regard to authorities, on finding, according to his own statement, page 125, that the mean places of his stars, Table IX., are "chiefly from Piazzi's Catalogue!!" Amongst the tables, the first two only are new. The former is said in the preface to be "the only one known to the author, which effects the double purpose of finding the true time" [here *mean* time is meant!] "from a given lunar distance, and the true lunar distance corresponding to a given time." Had Mr. H. used a little more circumspection before, in his eagerness, he deigned to elevate his table above that of every other author, he might, perhaps, without adverting to the utter uselessness of finding a distance corresponding to a given time, have seen that the table given in the "Nautical Almanac" will perform both operations with less trouble; for the inverse operation, it will only be necessary to change the precept at the foot of the table.

On the whole, Mr. Herapath's work does not appear to contain any original important matter. Its publication will no doubt be justly checked by the Government; a fate not likely to be regretted by any one except the author himself.

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**CAPTAIN SYMONDS' SHIPS.**—The following extract of a letter we have received from an officer of the *Snake*, at Rio Janeiro, will satisfy our readers, that, although the American ships may beat ours in sailing in the Mediterranean, it is not so with all on the South American station:—

"H.M.S. *Snake*, Rio, Oct. 1834.

"We tried our sailing the other day with an American corvette to windward of us, in moderate weather, and weathered on him about seven miles in five hours, sparing him all his flying kites."

We take this opportunity of adding, that we have received a letter from a correspondent, doubting the correctness of the statement we quoted from the *Naval and Military Gazette*, at page 629 of our 32d number, respecting the comparative cost in money of the Southampton and Vernon. Perhaps that ably conducted paper will confirm it. In the mean time we would ask does the form of Captain Symonds' ships require so much curved timber in their construction as those of the old system, or does he employ principally straight timber in them, and which is the most scarce and difficult to be had of the two, and therefore the dearest? and, does Captain Symonds gain tonnage by increasing breadth of beam? According to Mr. Edye's† valuable work, the Vernon's beam for tonnage is fifty-two feet. What is the Southampton's? We apprehend, that, according to the present old method of finding tonnage, the breadth of beam is an element of no little importance in tonnage. Perhaps the sections of some ships at the commencement of our number may throw some light on this.

\* See the Report of the Royal Astronomical Society, on which the whole Nautical Almanac was remodelled, at page 319 of our first volume.

† Calculations relating to the equipment, displacement, &c., of ships and vessels of war; a work which we have long ago said should be in the hands of every naval officer.



ABROLHOS, AND ENTRANCE TO BAHIA.—Extract of a letter from a naval officer, dated at Rio, in October last :—

"We sailed round the Abrolhos Islands, and found the inside channel\* perfectly safe. In daylight, and favourable weather, any ship may sail inside them, without risk. The position of the islands is correctly laid down in Roussin's chart.

Inside St. Antonio shoal there is likewise a good channel for a ship, with a commanding breeze. We sailed into Bahia three times by that channel; a circumstance which gave great satisfaction to the English residents, as no other ships except the English men-of-war attempt it; and they want the English merchant ships to come in that way when they are bound to Bahia."

**MELANCHOLY ACCIDENT ON THE MERSEY.**—*Liverpool, Monday Evening.*

On the evening of Saturday, it commenced blowing extremely fresh from the north-west, which continued during the night, and also during the whole of the following day. The wind increased last night (Sunday) to a perfect gale, and the sudden and heavy squalls with which it was accompanied, produced great alarm in a community like Liverpool, where every person is interested, more or less, in the fate of those who peril their lives in traversing the deep. The most melancholy anticipations were indulged in, from the violence of the storm, which has continued unabated in fierceness from its commencement until the present moment.

The *James Grant*, bound for New Orleans, has fortunately put back, as has also the *Kingston*, from Savannah, and the *Columbia*, for Bombay, latter with loss of main and mizen masts. A sloop, called the *Jane and Betty*, was driven on shore in Holyhead Bay at three o'clock this morning. The crew were happily saved, but the cargo, consisting of flower and oats, was lost. The *Martha*, from Quebec, struck on the north bank of the Mersey, at an early hour this morning. She was immediately abandoned by the crew, who betook themselves to the long boat, the sea at that moment being in a state of indescribable fury. The "shattered bark" to which the men at that trying and awful moment committed themselves, "climbed hills of sea Olympus high" in a most miraculous and providential manner, and brought its cargo of human beings in safety to the shore. When daylight appeared, a steamer was dispatched to the foundering vessel, and after the necessary arrangements were completed she was fastened to the packet and towed into dock.

The most melancholy event, however, which has distinguished this lamentable visitation is the loss of Captain Walker, a brave and meritorious officer belonging to the Custom-House revenue cutter *Vixen*, and four of his men. This distressing circumstance occurred at a late hour last night. It was the duty of the unfortunate captain to board all the vessels which entered the port: and in the discharge of his official task he proceeded to the *Duchess of Clarence*, commanded by Captain Evans, bound from Canton with tea, which had just entered the Mersey, where she came to an anchor. It appears that some of the passengers from Canton, who arrived in this vessel, were extremely anxious, although the night was dark and stormy, to reach the shore, having some immediate and pressing business to execute in London. On mentioning their views to Captain Walker, he strongly dissuaded them from entertaining the idea, and represented to them the perils of the attempt, assuring them, more-

\* We believe His Majesty's ship *Doris*, by adopting the channel inside the Abrolhos in 1823, made the passage to Bahia from Rio Janeiro in half the time that the *Conway* did, by keeping well outside. The *Doris* sailed from Rio after the *Conway*, and arrived before. The *Doris* had smooth water and favourable weather, while the *Conway* had a troublesome sea, and much wind. We consider our correspondent's remark on the channel inside the St. Antonio shoal worth the attention of our mercantile commanders.—*Ed.*



over, that it would be attended with no good result, as the London mail had then started, and no conveyance could be obtained before morning. With this explanation the passengers were satisfied, and consented to remain on board all night; but Captain Evans, who commanded the ship, being particularly anxious to communicate his arrival, and deliver his dispatches to his consignees, one of whom lives at Bootle, about two miles from the spot where the Duchess of Clarence was then at anchor, persuaded Captain Walker to attempt a landing there. After some parley, this was agreed to. The boat was a light six-oared gig—not the regular cutter to which Captain Walker belonged; and the two Captains with four men got into it. It was literally impossible that so frail a bark could long live in such a sea as was then running. Suffice it to say, that the boat foundered, and all on board met a watery grave.

The Duchess of Clarence is the first Liverpool ship that ever entered the Mersey with tea direct from China. The vessel which first arrived from Canton with that delicious leaf was a London ship. It is lamentable to reflect that the commander of the Duchess of Clarence, who had so successfully navigated his vessel to her destination through thousands of miles of ocean, should thus perish when he had completed his perilous undertaking. The bodies of the two captains have been found to-day—one is lying on the Cheshire, and the other on the Lancashire side of the Mersey at this moment, waiting the issue of a coroner's inquest. The bodies of the men have not been found.—*Liverpool Mercury*.

We insert the following from the Plymouth Telegraph in justice to Mr. Harris, whose excellent series of papers on this subject we laid before our readers in our last volume. The paragraph in the Falmouth Packet to which it alludes, may have received that credit to which it is not entitled. But we shall leave our readers to form their own opinion of it and its author:—

**LIGHTNING CONDUCTORS.**—We have more than once had occasion to notice an article, published in the "Falmouth Packet," giving an account of H.M.S. Caledonia and Thunderer, having been struck with lightning. We doubted the truth of the whole statement, and suspected that some unprincipled person had imposed upon the Editor. As the theory of lightning conductors has engaged the attention of some of the most scientific men of modern times, and conductors being of great national importance in protecting our ships, magazines, and public buildings, it was natural to suppose that all those who had relatives or friends in the Caledonia, and all those who entertained doubts of the efficiency of metallic conductors, should look with anxiety for further information from the Mediterranean.

We have now the pleasure of announcing to our readers that the whole statement that appeared in the Falmouth Packet, and to which we have alluded in former "Journals" was a base fabrication.

The Carron steam-vessel has arrived here, fourteen days from Malta, and the Commander states that the Caledonia has not even been touched by lightning. The Lords Commissioners of the Admiralty authorized this ship being fitted with permanent and continuous conductors, on a plan proposed by our townsman, W. S. Harris, Esq., F.R.S., who has devoted much of his time and attention to this subject, and whose general knowledge and scientific acquirements are well known to most of our readers.

Having paid some attention to this subject, and believing the plan proposed by Mr. Harris to be the best ever adopted, we were startled a little when reading an account of her masts having been shattered—men killed and wounded! whose names were even mentioned, and other particulars of time and place given to render the story plausible.

We remember to have heard a person deliver a Lecture at the Mechanics'



Institute, Devonport, *against* lightning conductors. When ignorance ventures beyond its depth, there is danger of sinking. We pitied the man for venturing to lecture on a subject of which he appeared to be so ignorant, and whose *rigmarole* composition, crude notions, and undigested conceptions of electricity, excited the mirth and ridicule of the juvenile members there assembled. Science receives but little injury from such ignorant and itinerant pretenders; but what are we to think of those who, to support their crude, vague, and visionary notions of subjects above their own comprehension, can quietly sit down and deliberately *fabricate an account of fatal and disastrous occurrences that never happened!* giving names of persons said to be killed or maimed, and other circumstantial details, with all the cold blooded indifference, and heartless feeling of the midnight murderer. The man who could do this, had only to go another step and crown his atrocity by *procuring an unsuspecting person to give publicity to the fabrication.*

Having said this much, we have now to state some further particulars which we received from the officers of the Carron, relative to lightning conductors.—The Canopus had lately been struck by lightning. This ship is not fitted with conductors on Mr. Harris's plan. She had, however, those up which are usually supplied to H.M. ships; and those protected the ship effectually—not, however, without giving evidence of the electric fluid having passed down them into the sea. The Carron, on her passage from Greece to Malta, encountered a thunder storm, she was surrounded with dense black clouds and pendant water spouts, and was struck by the electric fluid, but received no injury, although she was not supplied with the lightning conductors. Steam vessels, like the Carron, have chain rigging on the mainmast, the shrouds set up to the side, and two chain stays set up on board on each side of the funnel. The electric fluid passed down by the chain topmast rigging, down the chain stays, into the engine-room, from which it found a ready exit into the sea by the numerous bolts connecting the engine to the vessels bottom. Now, this accidental arrangement of the chain-rigging and machinery served as a conductor to the lightning, conveyed it into the sea, and saved the vessel—on the very principles recommended by Mr. Harris, namely, down the masts, and through the ships bottom into the sea. We would therefore advocate the cause of continuous conductors, because, what we observe to take place in nature, accords with our theoretical views on this branch of science, notwithstanding what ignorance may insinuate or falsehood fabricate."

Since the above was in type we have found the following in the "Falmouth Packet."—In our paper of the 29th ult. was inserted what purported to be an "extract of a letter from an officer on board H.M.S. *Thunderer*," stating that on "the 20th Sept. H.M.S. *Caledonia*, fitted with fixed conductors on Harris's plan, was struck by lightning," and sundry injuries sustained, which were detailed at length; and also that H.M.S. *Thunderer*, which had two chain conductors up on the fore-mast, was likewise struck and injured. This statement was handed us by a person who represented himself to be Mr. A. Scott, late second master of the *Thunderer*, and that he had returned to Englaad from the Mediterranean by his Majesty's steam-packet *Spitfire*; coming from such a quarter we very naturally gave it implicit credit. But we have since learnt the whole statement is a *base fabrication*.—We are at a loss for language strong enough to express our indignation at this nefarious attempt: and we hasten to give Mr. Harris the reparation to which he is entitled, and to disabuse the mind of the public, by exposing the source from whence it was derived. We earnestly request the editors of such papers as may have inserted the original statement, to copy this contradiction, that Mr. Harris's invention may not be prejudiced by so false and groundless a charge."



## Nabal Register.

COMMISSIONERS for executing the Office of LORD HIGH ADMIRAL of the United Kingdom of Great Britain and Ireland.

The Right Honourable Thomas-Philip-Weddell Robinson, Earl de Grey.  
 The Right Honourable Sir George Cockburn, G.C.B., Vice-Admiral of the Red,  
 and Major-General of Marines.  
 Sir John Poo Beresford, Bart., K.C.B., Vice-Admiral of the White.  
 Sir Charles Rowley, K.C.B., Vice-Admiral of the White.  
 Lord Ashley.  
 The Right Honourable Maurice Fitzgerald.

THE ROYAL NAVY IN COMMISSION—DECEMBER 21ST, 1834.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B. Appointed 23d Jan. 1833. Flag-Lieut.  
 T. R. Eden; Secretary, Thomas Williams.—Flag Ship, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H. Appointed 27th April, 1833.  
 Flag-Lieut. C. H. M. Buckle; Secretary, J. Loudon.—Flag Ship, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming. Appointed 16th Aug. 1834. Flag-Lieut.  
 Granville G. Loch; Secretary, G. B. Harrison.—Flag Ship, OCEAN, 80.

ACTÆON, 28.—Captain Lord Edward Russell, Portsmouth, fitting.

ASTREA—Captain A. King, foreign packets, Falmouth.

CAMELEON, 10—Lieut. Com. J. Bradley, Portsmouth, fitting.

CURLEW, 10—Lieut. Com. Hon. J. Denman, Portsmouth, fitting, said for South America.

EXCELLENT, 51—Captain T. Hastings, Portsmouth.

PORTSMOUTH, Yacht—Lieut. Com. J. Maitland, Portsmouth.

OCEAN, 80—Flag of Vice-Admiral the Hon. C. E. Fleeming, Captain A. Ellice; Sheerness.

PELICAN, 16—Com. B. Popham, at Chatham, fitting.

PIQUE, 36—Capt. the Hon. H. J. Rous, Hamoaze, fitting.

PRINCE REGENT Yacht—Captain G. Tobin, C.B., Deptford.

ROLLA, 10—Lieut. Com. F. H. H. Glasse, 19th Aug. sailed for coast of Scotland, to protect the fisheries.

ROVER, 16—Com. C. Eden, at Plymouth, fitting.

ROYAL GEORGE Yacht—Captain Right Hon. Lord A. Fitzclarence, G.C.H., Portsmouth.

ROYAL SOVEREIGN Yacht—Captain C. Bullen, C.B., Pembroke.

SAN JOSEF, 110—Flag of Admiral Sir W. Hargood, G.C.B., G.C.H., appointed 27th April, 1833—Captain G. T. Falcon, Hamoaze.

SCYLLA, 18—Com. E. J. Carpenter, at Chatham, fitting.

SEAFLOWER, Cutter, 4—Lieut. Com. J. Morgan, 6th Sept. sailed for Jersey, to protect the oyster fishery.

SEAGULL, 6—Lieut. Com. J. Parsons, see packets.

SPEEDY, Cutter—Lieut. C. H. Norrington, Portsmouth station.

VICTORY, 104—Flag of Admiral Sir T. Williams, G.C.B., appointed 23d Jan. 1833—Captain R. Williams, Portsmouth.

WATERWITCH, 10—Lieut. Com. J. Adams, Portsmouth, fitting, said for the packet service.

WILLIAM AND MARY, Yacht—Captain S. Warren, C.B., Woolwich.



## Abroad.

## LISBON STATION.

- Rear-Admiral, W. H. Gage. Appointed 9th April, 1834. Flag-Lieut. James L. Parkin; Secretary, John Irving.—Flag-Ship, *HASTINGS*, 74.
- CASTOR*, 36—Captain Right Hon. Lord John Hay, 26th Oct. in the Tagus.
- HASTINGS*, 74—Flag of Rear-Admiral W. H. Gage, appointed 9th April, 1834—Captain H. Shiffner, in the Tagus.
- LEVERET*—Lieut. Com. G. Traill, 28th Sept. in the Tagus: arrived the 20th.
- NIMROD*, 20—Com. R. Fair, 27th Nov. arrived at Plymouth from Lisbon; left the Tagus 6th, 18th Dec. sailed for Lisbon.
- RINGDOVE*, 16—Com. W. F. Lapidge, 21st Oct. at Madeira; 24th Oct. at Santander.
- SARACEN*, 10—Lieut. Com. T. P. Le Hardy, 5th June arrived at Lisbon from Cadiz.
- STAG*, 46—Capt. N. Lockyer, C.B., 1st Dec. in the Tagus.

## MEDITERRANEAN STATION.

- Vice-Admiral, Sir Josias Rowley, Bart., G.C.B. Appointed 18th Dec. 1833. Flag-Lieut. H. B. Young; Secretary, T. Triphook.—Flag-Ship, *CALEDONIA*, 120.
- BRITANNIA*, 120—Captain P. Rainier, 31st Oct. at Vourla.
- CALEDONIA*, 120—Flag of Vice-Adm. Sir Josias Rowley, Bart., G.C.B.—Capt. T. Brown, 31st Oct. at Vourla.
- CANOPUS*, 84—Hon. J. Percy, 31st Oct. at Vourla.
- CARRON*, St. V.—Lieut. Com. J. S. Duffil. See Steam Vessels.
- CYLON*, 2—Lieut. J. G. M'Kenzie, Malta.
- CHILDERS*, 16—Com. Hon. H. Keppel, 21 Nov. at Zante.
- COLUMBINE*, 18—Com. T. Henderson, 26th Oct. at Malta; 21st Oct. sailed for Vourla.
- EDINBURGH*, 74—Captain James R. Dacres, 31st Oct. at Vourla.
- ENDYMION*, 50—Captain Sir Samuel Roberts, C.B., 27th Sept. at Vourla; 31st Oct. at Smyrna.
- FAVORITE*, 18—Com. G. R. Mundy, 21st Nov. at Tripoli.
- JASEUR*, 18—Com. J. Hackett, 21st Nov. at Gibraltar.
- MADAGASCAR*, 46—Captain E. Lyons, C.B., 12th Nov. arrived at Malta. Ordered home: daily expected.
- MALABAR*, 74—Capt. Sir W. A. Mon- tagu, K.C.H., 27th Oct. arrived at Malta from Plymouth.
- MEDEA*, 6—Com. H. T. Austen, 28th Oct. left Vourla with despatches for Constantinople.
- ORESTER*, 18—Com. H. J. Codrington, Nov. on the coast of Spain.
- PORTLAND*, 52—Captain D. Price, 21st Oct. sailed for Vourla.
- REVENGE*, 78—Capt. W. Elliott, C.B., 19th Oct. left the Tagus for the Mediterranean.
- SCOUT*, 18—Com. W. Holt; 10th Sept. at Smyrna.
- TALavera*, 74—Captain E. Chetham, C.B., 31st Oct. at Vourla.
- THUNDERER*, 84—Captain W. F. Wise, C.B., 31st Oct. at Vourla.
- TRIBUNE*, 24—Captain J. Tomkinson, 21st Nov. at Malta.
- TYNE*, 28—Capt. Right Hon. H. J. C. Viscount Ingestrie, C.B., 7th Nov. arrived at Malta from Jaffa.
- VERNON*, 50—Capt. M'Kerlie, 7th Dec. passed St. Helen's on her way to the Mediterranean.
- VOLAGE*, 28—Capt. G. B. Martin, C.B., 10th Nov. left Malta for Constantinople with despatches.

## CAPE AND AFRICAN STATION.

- Rear-Admiral, P. Campbell, C.B. Appointed 30th May, 1834. Flag-Lieut. James Maitland; Secretary, J. B. Hutchings.—Flag-Ship, *THALIA*, 46.
- BRISK*, 3—Lieut. Com. J. Thompson, Sept. on the Gold Coast.
- BRITOMART*, 10—Lieut. W. H. Quin, 12th Oct. sailed for Goree. The merchants of the Gambia have voted a piece of plate, value 100 guineas, to Lieut. Quin, of His Majesty's ship *Britomart*, in testimony of his services in the protection of the trade.
- BUZZARD*, 10—Lieut. Commander N.



M'Namara, 12th Oct sailed for Cape of Good Hope.  
 CHARYBDIS, 3—Lieut. Com. S. Mercer, 12th Oct. at Sierra Leone.  
 FAIR ROSAMOND, Schooner—Lieut. Com. G. Rose, Bight of Benin.  
 FORESTER—Lieut. G. G. Miall, Sept. on the Gold Coast.  
 GRIFFON, 3—Lieut. J. E. Parlbay, Sept. and Oct. at Ascension.  
 LYNX, 10—Lieut. Com. H. V. Huntley, Oct. at Ascension. The Lynx captured a slave vessel, with 347 slaves on board, on the 15th of Sept. between Prince's Island and Ascension.  
 PELORUS, 18—Com. R. Meredith, Sept. in the Bight of Biafra; 10th July at Fernando Po.

THALIA, 46—Capt. R. Wauchope, flag of Rear-Admiral P. Campbell, C.B., 12th Oct. sailed for Cape of Good Hope, from the Gambia.  
 TRINCULO, 18—Com. J. R. Booth, 16th Sept. arrived at the Cape of Good Hope; 5th Oct. remained. The Trinculo had in the months of June and July visited Mozambique, the town of Majungo in Bembatooka bay, Zanzibar, and Mombas; at the latter port she lost an anchor and part of a cable; each of the above are well known dangerous navigation. Success attending expert seamen only, further accident was prevented at Mombas.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. Appointed 30th May, 1834. Flag-Lieut. Hon. J. R. Drummond; Secretary, —Flag-Ship, WINCHESTER, 52.  
 ALGERINE, 10—Lieut. Com. G. Stovin, 30th Aug. arrived at Plymouth; 6th Sept. sailed for the Cape. Spoken with 17th September. Lat. 38° N., long. 13° W.  
 ALLIGATOR, 28—Capt. G. R. Lambert, 17th June arrived at Sydney; 2nd July sailed for the southern coast.  
 ANDROMACHE, 28—Capt. H. D. Chads, C.B., 6th May arrived at the Cape from Rio, on her way to Canton, with Lord Napier and suite; 24th June passed Anjeer.  
 CURAÇOA, 26—Capt. D. Dunn, ordered home, 18th June at Madras.  
 HARRIER, 18—Com. S. L. H. Vassal, 27th March left Singapore for Malacca.  
 HYACINTH, 18—Com. F. P. Blackwood, 2nd Aug. at Mauritius; sailed for Trincomalee, Madras, and New South Wales.  
 IMOGENE, 18—Captain P. Blackwood, 24th July at Singapore: about to proceed to China. Ordered home.  
 MAGICIENNE, 24—Captain J. H. Plummeridge, 5th Aug. at Bombay.  
 MELVILLE, 74—Vice-Admiral Sir John Gore, K.C.B. Capt. H. Hart, at Mauritius 23d Aug. to sail for Madras on the 24th.  
 RALEIGH, 16—Com. M. Quin, 12th Oct. left Plymouth for the East Indies, 23d Oct. arrived at Madeira, 25th sailed for Calcutta.  
 ROSE, 18—Com. W. Barrow, 30th Aug. touched at Madeira, on her way to the East Indies. 21st Sept. spoke in lat. 5° 55' N. long. 19° 18' W.  
 WINCHESTER, 52—Capt. E. Sparshott, K.H. Flag of Rear-Admiral Hon. Sir T. B. Cappel, K.C.B., 5th Nov. arrived at Madeira, 8th sailed for Rio on her way to the East Indies.  
 WOLF, 18—Com. E. Stanley, 15th Oct. arrived at Madeira from Plymouth; 18th sailed for the Cape.  
 ZEBRA, 16—Com. R. C. M'Crea, 24th Sept. left Portsmouth for the Cape, Mauritius, and Bombay.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. Appointed 6th Dec. 1832. Flag-Lieut. H. W. Willes; Secretary, T. Woodham.  
 Flag-Ship, PRESIDENT, 52.

ARACHNE, 18—Com. J. Burney, at New York, on the 19th of November, for the purpose of obtaining contractors in the United States, to undertake the building of two Light Houses in the Gulf of Florida; one on Gun Quay, NO. 35.—VOL. IV.

the other on the Hole in the Wall, Island Abaco.

BELVIDERA, 42—Capt. C. B. Strong, 23d Oct. expected at Barbadoes.

CHAMPION, 18—Commander Hon. A. Duncombe, refitting; 28th Novem-



- ber arrived at Plymouth from St. John's.
- COLUMBIA**, St. V.—Master Commander James Henderson, 23d touched at Plymouth, 25th sailed for the West Indies.
- COMUS**, 18—Com. W. P. Hamilton, 21st Oct. at Halifax.
- CRUZIER**, 18—Com. James M'Causland, 28th Sept. sailed from Port Royal for Bermuda, to repair damages from getting ashore at San Juan di Nicaragua: 8th October at Bermuda.
- DEE**, 4—Com. W. Ramsay, 23d Oct. arrived at Barbadoes, and to proceed to Antigua.
- DISPATCH**, 18—Com. G. Daniell, 12th Oct. arrived at Barbadoes from Martinique.
- DROMEDARY**—R. Skinner, Bermuda.
- FIREFLY**, 2—Lieut. J. M'Donnel, 29th Aug. left Jamaica for Cuba.
- FLAMER**, St. V.—Lieut. Com. C. W. G. Griffin, 10th Dec. left Woolwich for the West Indies. Touched at Sheerness, Portsmouth. Left Plymouth 18th Dec. with despatches for Sir Geo. Cockburn.
- FLY**, 10—Com. P. M'Quhae, 24th Sept. at Jamaica.
- FORTE**, 44—Capt. W. O. Pell, 29th Oct. at Port Royal, Jamaica.
- GANNET**, 18—Com. J. B. Maxwell, 21st Oct. at Halifax.
- LARNE**, 18—Com. W. S. Smith, 24th Sept. at Jamaica; 15th arrived from Carthagena.
- MAGNIFICENT**, 4—Lieut. J. Paget, Port Royal.
- NIMBLE**, 5—Lieut. C. Bolton, 12th Aug. at Nassau, New Providence, 29th Sept. at Halifax.
- PEARL**, 20—Com. R. Gordon, 3d Nov. arrived at Portsmouth from Jamaica.
- PICKLE**, 5—Lieut. Com. A. G. Bulman, Sept. sent to Halifax.
- PINCHER**, 5—Tender to flag-ship, 27th Oct. arrived at Newfoundland from Halifax.
- PRESIDENT**, 52—Flag of Vice-Admiral Sir G. Cockburn, G.C.B.—Captain James Scott, 5th Nov. at Halifax; about to sail for Bermuda, 18th sailed from Halifax.
- RACEHORSE**, 18—Com. Sir E. Home, Bart. 29th Oct. at Jamaica.
- RACER**, 16—Com. J. Hope, 29th Oct. at Jamaica.
- RAINBOW**, 28—Capt. Thomas Bennet, 30th Oct left Barbadoes.
- RHADAMANTHUS**, St. V.—Com. G. Evans, 29th Oct. at Port Royal, Jamaica.
- SAVAGE**, 10—Lieut. R. Loney, 29th Oct. at Port Royal, Jamaica.
- SERPENT**, 16—Com. J. C. Symonds, 31st Oct. arrived at Barbadoes from Trinidad.
- SKIPJACK**, 5—Lieut. Com. W. H. Willes (act) Bahamas.
- VESTAL**, 26—Capt. W. Jones, 3d Sept. sailed for Newfoundland from Halifax.
- WASP**, 18—Com. J. S. Foreman, 2d Nov. arrived at Barbadoes from Antigua.

## SOUTH AMERICAN STATION.

- Rear-Admiral Sir G. E. Hammond, K.C.B. Flag-Lieut. A. S. Hammond; Secretary, E. E. Vidal.—Flag-Ship, SPARTIATE, 74.
- BLONDE**, 46—Capt. F. Mason, C. B. 16th Aug. arrived at Valparaiso, 21 days from the Falkland Islands.
- CHALLENGER**, 28—Capt. S. Seymour, 13th June at Callao from Valparaiso.
- COCKATRICE**, 6—Lieut. Com. W. L. Rees, running between Rio Janeiro and Buenos Ayres.
- CONWAY**, 25—Capt. H. Eden, 21st May left Valparaiso for the northward; 1st June arrived at Arica. To return to Valparaiso in Sept.
- HORNET**, 6—Lieut. Com. F. R. Coghlan, running between Monte Video and Rio Janeiro.
- NORTH STAR**, 28—Capt. O. V. Harcourt, 27th July sailed for Rio Janeiro, with H. Hamilton, Esq., Minister Plen. at Buenos Ayres, and P. Scarlett, Esq. for Rio Janeiro. Left Madeira 14th Aug., arrived at Rio 23d Sept. To proceed to River Plata.
- RAPID**, 10—Lieut. Com. F. Patten, 15th Oct. at Rio Janeiro.
- SAMARANG**, 28—Capt. C. H. Paget, 4th June arrived at Lima from Valparaiso. To leave the Pacific in Oct. Ordered home.
- SATELLITE**, 18—Commander R. Smart, ordered home; 25th July at Rio Janeiro.
- SNAKE**, 16—Com. W. Robertson, 15th



Oct. at Rio. To proceed to the Falkland islands. The Snake had previously tried her rate of sailing with an American corvette, and although to leeward of her, the Snake weathered on the corvette seven miles in five hours, sparing him her small sails.  
**SPARROWHAWK**, 18—Com. C. Pearson,

8th July left Rio for the Falkland Islands.  
**SPARTIATE**, 76—Capt. R. Tait, 16th Oct. at Rio Janeiro.  
**TALBOT**, 28—Capt. F. W. Pennell, 20th Oct. sailed for Rio Janeiro with the newly-appointed Admiral, who hoisted his flag on the 15th.

## TROOP SHIPS.

**ATHOL**, Troop Ship—Master Com. A. Karley  
**BUFFALO**, Store Ship—Master Com. F. W. R. Sadler, Portsmouth, preparing to pay off.  
**JUPITER**, Troop Ship—Master Com. R. Easto. We are happy to state that the Jupiter, troop ship, Mr. Easto, Master, (for whose safety apprehensions were entertained,) with the

60th Rifles on board, (altogether nearly 1000 persons,) is arrived safe at Carthagenia (in Spain.) She had been in great danger, and was repairing her damages, to proceed on to Malta.—*Hants Tel.*  
**ROMNEY**—Master Com. James Wood, 6th Nov. left Malta with the 94th regt. for Cork.

## STEAM VESSELS.

**AFRICAN**—Lieut. J. West, Woolwich.  
**ALBAN**—Lieut. Com. J. B. Roepel, Woolwich. Fitting.  
**BLAZER**—Lt. Com. J. Pearce, Chatham.  
**COLUMBIA**—See West Indies.  
**CARRON**—Lieut. Com. J. S. Duffil, 10th Dec. arrived at Plymouth from the Mediterranean, 10th Dec. sailed for Woolwich.  
**COMET**—Woolwich.  
**CONFIANCE**, 2—Lieut. Com. J. M. Waugh. See Packets.  
**DEE**, 4—See North American Station.  
**FIREBRAND**—Mr. J. Allen, Home Station.  
**FIREFLY**—See Packets.  
**FLAMER**, 6—See West India Station.

**LIGHTNING**—Mr. T. Allen, Woolwich.  
**MEDEA**, 6—Com. H. T. Austen. See Mediterranean Station.  
**MESSENEER**, 1—Com. Mr. J. King, Channel Station: running between Thames, Portsmouth and Plymouth, and Milford.  
**METEOR**—Woolwich.  
**PLUTO**—Woolwich.  
**RHADAMANTHUS**—See West India Station.  
**SALAMANDER**—Com. W. L. Castle, Portsmouth.  
**SPITFIRE**, 6—Lieut. Com. A. Kennedy. See Packets.  
**TARTARUS**—Lieut. Com. H. James. See Packets.

## SURVEYING VESSELS ABROAD.

**ÆTNA**, 6—Lieut. Com. W. Arlett, 11th Nov. sailed for Madeira and Teneriffe.  
**BEACON**—Com. R. Copeland, surveying in the Archipelago; 31st Oct. at Scio.  
**BEAGLE**, 10—Com. R. Fitz-Roy, surveying the coasts of Patagonia and Chili; 24th July at Valparaiso.  
**FAIRY**, 10—Com. W. Hewett, Nov. returned to Woolwich from the survey of the North Seas.  
**GULNARE**, Hired Schooner—Capt. H. W. Bayfield, surveying the Gulf of St. Lawrence.  
**INVESTIGATOR**, 16—Mr. G. Thomas, November, returned to Woolwich, Mr. Thomas having completed his arduous and difficult survey of the

Shetland Islands. This is the only correct trigonometrical survey ever made of these islands, and will remain a lasting memorial of the valuable services of Mr. Thomas in this scientific branch of his profession.  
**JACKDAW**—Lieut. Com. E. Barnett, 11th May at Port Royal, from Nassau, refitting. Surveying the Mosquito coast.  
**MASTIFF**, 6—Lieut. Com. T. Graves, surveying in the Archipelago; 31st Oct. at Smyrna.  
**RAVEN**, Cutter—Lieut. H. Kellet, in company with Ætna.  
**THUNDER**—Com. R. Owen, surveying the Mosquito coast.



**OFFICERS EMPLOYED IN SURVEYING  
AT HOME.**

Com. W. Mudge; Assistants, Lieuts.  
J. Harding, G. A. Frazer.—Coast of  
Ireland.

Lieutenants, M. A. Slater; W. L. Sher-  
ingham, H. C. Otter.—East Coast of  
Great Britain.

Lieutenants, H. M. Denham; C. G.  
Robinson.—West Coast of Great  
Britain.

**PAID OFF.**

Isis, 50—13th Dec. at Chatham—  
Struck at Spithead 30th November  
Flag of Rear-Admiral F. Warren—  
Capt. J. Polkinghorne.

PLUTO—St. V.—Woolwich.

**COMMISSIONED.**

CAMELEON, 10—19th Dec. Portsmouth.

**PROMOTIONS AND APPOINTMENTS.****PROMOTIONS.**

CAPTAIN—R. Fitzroy.

COMMANDER—W. D. Paget.

LIEUTENANTS—G. Lavie, R. Mil-  
bank, T. J. Clark.

MASTER—G. Watson.

SURGEONS—H. D. R. Henning, D. G.  
Miller, J. Bankior, J. Watson, J. S.  
Hampton, J. Brooks.

**APPOINTMENTS.**

ACTÆON, 26—Mates, G. H. Halliday,  
H. Prolyn, S. Bradley, C. May; Assist.  
Surg. R. Hopley; Vol. H. Horton;  
Clerk, G. H. Morebray.

ALBAN, St. V.—Sec. Master, J. Hun-  
ter; Clerk, R. Fuller.

BUZZARD, 10—Lieut. Com. M'Na-  
mara.

BLAZER, St. V.—Lieut. Com. J. Pearse;  
Purser, W. Cotsell.

CAMELEON, 10—Lieut. Com. J. Brad-  
ley; Sec. Master, J. C. Hutchings; Assist.  
Surg. J. Christie; Clerk, A. Laidlow.

CHALLENGER, 28—Mate, E. R. Con-  
nor.

CHAMPION, 18—Lieut. G. C. Mends.  
COAST GUARD—Com. Dawson;  
Lieuts. J. Thorn, A. Kortright, J.  
Moon.

CURLEW, 10—Assist. Surg. J. Taylor;  
Clerk, L. Morley.

EXCELLENT, 50—Lieut. T. Mitchell,  
(b); Mates, H. Bullock, J. J. Carroll.

FLAMER, St. V.—Lieut. C. W. G. Grif-  
fin; Assist. Surg. W. D. Wilkes; Sec.  
Master, F. Tyler; Clerk, G. Dennis.

GOLDFINCH, Packet—Assist. Surg. C.  
O'Brien.

HASTINGS, 74—Lieut. W. N. Russell.

HYACINTH, 18—Surg. A. Johnston.

JASEUR, 16—Master, J. Haynes;  
Mate, J. Harper.

INVESTIGATOR, Surv. Ves.—Mate, R.  
Edwards.

MALABAR, 74—Capt. Mar. H. L. Vine.  
NIMROD, 20—Lieut. C. Yelland;

Master, act. W. Mattacott; Surgeon, D.  
Kennedy.

PIKE, 12—Lieut. A. Brooking.

PELICAN, 16—Mates, J. Wells, T.  
Royer, Read.

POWERFUL, 18—Master, J. Thireick.  
PIQUE, 36—Lieuts. F. Birch, D. S.

Tindal, J. Richardson; Master, W.  
Hemsley; Surg. J. Lawrence; Purser,  
J. Howard; Assist. Surg. R. T. C. Scott;  
Mate, W. R. Mends.

PRESIDENT, 52—Lieuts. W. S. Cooper,  
N. Fowell.

RACER, 16—Lieut. act. R. Caldwell.

ROVER, 18—Lieut. G. Wodehouse;  
Master, R. Rogers; Surg. H. Goldney;  
Assist. Surg. W. Pattison.

ROSE, 18—Mate, R. M. Robertson.

ROYALIST, 10—Lieut. Com. C. Bar-  
low; Sec. Master, C. Airey.

SAN JOSEF, 110—Sec. Master, J. Jen-  
nings; Assist. Surg. J. L. M'Caule.

SALAMANDER, St. V.—Mate, C. Wood;  
Clerk, C. Browne.

SPARTIATE, 76—Lieut. T. G. Carke.

SCYLLA, 16—Com. J. Carpenter;  
Lieuts. Hon. J. O. Grady, G. Airey.

SPITFIRE, St. V.—Sec. Master, L. Lel-  
lenap; Assist. Surg. D. Kerr.

SEMAPHORE PUTNEY—Lieut. W.  
Hubbard.

SPEEDY, Cutter—Assist. Surg. W. C.  
Lamb.

THALIA, 46—Lieut. act. P. Campbell.  
VERNON, 50—Mate, A. Bentall.

VICTORY, 104—Chaplain, Rev. C. H.  
Lethbridge; Mate, E. M. Raitt; Assist.  
Surgs. J. Bowler, R. R. Arnott.

WATERWITCH, 10—Mast. Assist.  
J. W. Wilkins; Assist. Surg. J. R.  
Goodridge.



FALMOUTH, 20TH DECEMBER.

LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
VIPER.....	Lt. Com. L. A. Robinson	23 Novem.	1 Dec.	Tagus	21 Dec.
PANTALOOM.....	Lt. Com. N. Cory.....	30 Novem.	_____	_____	23 Dec.
ESPOIR.....	Lt. Com. C. W. Riley..	5 Decem.	_____	_____	2 Jan.
NAUTILUS.....	Lt. Com. M. Crooke....	14 Decem.	_____	_____	11 Jan.
SCORPION.....	Lt. Com. N. Robilliard..	20 Decem.	_____	_____	17 Jan.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—(by steamers)—51 days; sails 1st of every Month.—Route—To Cadiz, Gibraltar, Malta, Zante, Patras, and Corfu, and thence returns in the same rotation.

TARTARUS, st. v.	Lt. Com. H. James ....	3 Novem.	12 Nov.	Gibraltar	24 Dec.
FIREFLY, st. v.	Lt. Com. R. Baldock ..	3 Decem.	_____	_____	23 Jan.

NORTH AMERICA—9 weeks : sails 1st Wednesday every Month.—Route—To Halifax and back to Falmouth.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

ECLIPSE.....	Lt. Com. W. Forester ..	19 Novem.	_____	_____	21 Jan.
BRISIS.....	Lt. Com. J. Downey ..	6 Decem.	_____	_____	7 Feb.

LEEWARD ISLANDS—12 weeks : sails 3rd Wednesday every Month.—Route—To Barbadoes, St. Lucie, Martinique, Dominique, Guadeloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and Falmouth. Answers picked up by mail-boats and brought to St. Thomas to the packet.

DUKE OF YORK	Lt. Com. W. James.....	20 Oct.	_____	_____	12 Jan.
LYRA.....	Lt. Com. J. St. John....	22 Novem.	_____	_____	14 Feb.
SPEY.....	Lt. Com. R. B. James..	20 Decem.	_____	_____	14 March.

JAMAICA—14 weeks : sails 1st Wednesday every Month.—Route—To Barbadoes, St. Vincent, Grenada, JAMAICA, Crooked Island, and Falmouth.

SHELDRAKE....	Lt. Com. A. R. Passingham	8 Sept.	19 Oct.	Barbadoes	15 Dec.
TYRIAN.....	Lt. Com. E. Jennings ..	5 Oct.	_____	_____	11 Jan.
NIGHTINGALE..	Lt. Com. G. B. Fortescue	12 Novem.	_____	_____	11 Feb.
MUTINE.....	Lt. Com. R. Paule ....	6 Decem.	_____	_____	14 March.

MEXICO, JAMAICA, and HAYTI—18 weeks : sails 3rd Wednesday every Month.—Route—To St. Domingo, Jamaica, Belize, Vera Cruz, Tampico, Vera Cruz, Havana, and Falmouth.—[This Packet takes the Carthagena mail, which is sent to Jamaica by a Schooner, and returns to meet the regular Jamaica Packet.]

SWALLOW.....	Lt. Com. S. Griffith....	21 July	21 Sept.	Vera Cruz	24 Nov.
LAPWING.....	Lt. Com. G. B. Forster..	23 Aug.	_____	_____	27 Dec.
REINDEER.....	Lt. Com. H. P. Dicken..	20 Sept.	_____	_____	24 Jan.
STANMER.....	Lt. Com. R. S. Sutton..	20 Oct.	_____	_____	23 Feb.
LADY M. PELHAM	Lt. Com. H. Carey.....	22 Novem.	_____	_____	28 March.
OPOSSUM.....	Lt. Com. R. Peters....	20 Decem.	_____	_____	25 April.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks : sails 1st Tuesday every Month.—Route—January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.—September to December inclusive: to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

PIGEON.....	Lt. Com. J. Binney.....	10 Sept.	15 Oct.	Pern'buco	28 Jan.
SKYLARK.....	Lt. Com. C. P. Ladd....	11 Oct.	24 Oct.	Santa Cruz	28 Feb.
LORD MELVILLE	Lt. Com. C. Webbe....	8 Novem.	17 Nov.	Madeira	30 March.
PANDORA.....	Lt. Com. M. Croke....	5 Decem.	_____	_____	25 April.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

IN PORT.

CAMDEN—Lieut. Com. J. Tilley, 30th Nov.  
arrived from Mexico.  
GOLDFINCH—Lt. Com. E. Collier, 1st Dec.  
arrived from Halifax.

PLEOVER—Lt. Com. W. Downey, 3d Dec.  
arrived from the Brazils.  
REYNARD—Lt. Com. G. Dunsford, 6th Dec.  
arrived at Falmouth.  
SEAGULL—Lt. Com. J. Parsons, 18th Dec.  
arrived at Falmouth from Portsmouth.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1834.

Continued from page 766.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
1 Aid	Keselton	Liverpool	Mirmichi	P. Escuminea	Nov.	7 of crew saved.
2 Alfred	Martin	Guernsey	Rotterdam	Walcheren	10 Dec.	
3 Charles				Senegal	Sept.	
4 Diana	Smack	Peterhead		Cromartiz	Nov.	
5 Earl of Fife	Ransald	Birken. J.	Stornaway	Beaulish P.	11 Nov.	
6 Eliza		Wicklow	Swansea	Arklow	7 Nov.	
7 Elizabeth	Tulloch		Montrose	Annet	7 Dec.	
8 Emulous		Whitehav'n	I. Man	I. Man	7 Nov.	
9 Good Intent	Melham	Newcastle		Off Hastings	28 Nov.	
10 Henry & Mary		of Cowes		Owers	16 Nov.	
11 Hercules	Mearns		Montrose	Annet	7 Dec.	
12 Independence		Kinsale	S. John's	C. Sable	1 Nov.	
13 Jean		Newcastle	Perth	Ilay	11 Nov.	
14 Maria	Brough	Quebec	Liverpool	N. Bank	18 Dec.	
15 Martha	Toase	Whitby		Lowestoffe	20 Nov.	
16 Mary Ann	Taylor	Rio Grande		R. Grande	26 Aug.	
17 Pacific	Watson	Newcastle	Moray Frith	Rattray H.	4 Nov.	
18 Valmy				Mullion S.	26 Nov.	

## TIDE OBSERVATIONS, AND OBSERVATORY AT LIVERPOOL.

*To the Editor of the Nautical Magazine.*

SIR,—I hope we shall, ere long, have some account in your Magazine, of the Observations made on the Tides by the Coast Guard, as stated by Professor Whewell, at the late Scientific Meeting in Edinburgh. It appears from your last number, that the Tide-gauge has been usefully applied by Lieutenant Denham, in his recent Survey of the Port of Liverpool. I think it ought to be constantly used in the Mersey, both at the Rock Light House and the Dock Gates. Also, at the Eddystone, the Bell Rock, and other Light Houses washed by the sea, and in every harbour where there is an Establishment of Custom-house officers. If this were done, and the results accurately reported, they would furnish data for more correct Tide Tables than any yet published. Liverpool, the second port in the empire, is yet behind several others in one most essential requisite, viz. an Observatory, the continued deficiency of which is the more extraordinary as there seems no want of liberality towards other public institutions in that town, and I have heard that the Corporation some years ago provided several valuable instruments, and offered a grant of land, for the purpose of erecting a suitable building. I understood, also, that a subscription was commenced and supported by one or both of the members for Liverpool. If you mention the subject in your Magazine it may lead to some explanation, and perhaps forward the execution of a work, which must be considered equally desirable for its general utility, and for the honour and credit of the wealthy and intelligent inhabitants of Liverpool, where I have experienced much hospitality as an occasional visitor.

I am, sir, your obedient servant, H.—

December 18, 1834.

TO NAVIGATORS.—A new buoy has been laid on the North East projection of Margate Sand, and a new light-house on Cape Barfleur, the particulars of which will be found in our next number.



**Births.**

On the 31st July last, at Lee Terrace, Blackheath, the lady of Commander W. Hewett, R.N., of a son.

The lady of Captain Thomas Woolrige, R.N., of a son.

At Springfield House, Cove, the lady of Lieutenant Lambert, R.N., of a son.

At Falmouth, the lady of Lieutenant Drew, R.N., of a daughter.

At Larch Hill, Moffat, the lady of Capt. C. Hope, R.N., of a daughter.

The wife of Mr. J. H. Cooke, Purser, R.N., of a daughter.

At Plymouth Hospital, the lady of Dr. Armstrong, of a daughter.

At Falmouth, the lady of Lieutenant Passingham, of the Sheldrake, of a daughter.

**Marriages.**

At St. James's Church, Leut. George Manning, R.N., eldest son of Henry Manning, esq., of Wonford House, Devon, to Emma Jane, daughter of the late Wm. F. Jones, of Ashurst Park, esq., Kent.

At St. Saviours', Southwark, Captain Arth. Grumley, R.N., to Sarah, daughter of W. Hastelow, of Great Guilford-st., Southwark.

At Stonehouse Chapel, Lieut. R. A. Bradshaw, R.N., of H.M.S. San Josef, only son of General Bradshaw, late of the 1st Life Guards, to Augusta Julia, only daughter of O. Newell, esq., R.N., Royal Navy Hospital.

At St. John's Church, Thanet, Lieut. Wm. Rowse, R.N., to Fanny, second daughter of Rear Admiral Sir Thomas Hervey, K. C. B.

At Farlington, Capt. Rd. Edwards, R.N., to Emily, daughter of William Taylor, esq., of Parkfield-house, Purbrook.

**Deaths.**

At Swanage, on Monday, after a lingering illness, which he bore with Christian fortitude, Rear Adm. Cooke, aged 85, sincerely regretted by his relatives and friends.

On the 29th of June last, near Syd-

ney, New South Wales, Richard Allen, Esq., Surgeon, R.N., Superintendent of convicts on board the *James Laing*. Three of the convicts died on the voyage, and much sickness had prevailed among the others. Excessive fatigue, and great anxiety for the sick, had occasioned an affection of the brain in Mr. Allen, which terminated fatally. He was greatly beloved by all who knew him, and is deeply deplored by his sorrowing widow and family.

On the 6th inst., Mr. John Sullivan Edwards, R.N., of Torpoint, late Assistant Surgeon of the Convict Establishment at this port: a youth of mild and unassuming manners, and considerable professional acquirements.

On the evening of the 20th Nov. Lieut. Robert Gilly, R.N., (1823) and five men of the Coast Guard, were unfortunately drowned off Hastings, by their galley shipping a sea, as they were going off to the assistance of the crew of a brig, which had sprung a leak. The crew of the vessel were saved in their own boat. The Duchess of Kent and the Princess Victoria (who reside at St. Leonard's) have kindly patronised a subscription for the families of the unfortunate sufferers. The nature of the object which cost him his life corresponds with the kind and benevolent disposition which he possessed.

Lately in Ireland, on the Coast Guard Service, Lieut. J. Jones, R.N., 1821.

At Glasgow, Commander Charles Stewart Cochrane, younger son of the late Admiral Sir Alexander Cochrane, and brother of Sir T. Cochrane.

Lately in Windsor Castle, Lieutenant Barber, one of His Majesty's Military Knights of Windsor, aged 74.

On the 25th Nov. at Castle Hall, Perthshire, Capt. Charles Mitchell, R.N. (1825), son of the late Admiral Sir Andrew Mitchell.

Commander James Watson and Commander Tapp, both on the retired list.

Mr. Clement Pattison, Surgeon of H.M.S. *Hyacinth*, on the East India station.

At Chelston, near Torquay, Commander Charles Belfield Louis, R.N., youngest son of the late Admiral Sir Thomas Louis, Bart.

At Bath, Capt. James Sanders, R.N., (1802), sincerely regretted.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**NOVEMBER, 1834.**

Month Day.	Week Day.	BAROMETER. In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	S.	30.15	30.11	52	54	47	57	S.W.	S.W.	3	3	B c m.	O.
2	Su.	30.12	30.10	51	56	47	56	S.W.	S.W.	3	3	B' c.	O.
3	M.	30.06	30.04	51	53	46	55	S.W.	S.W.	2	2	Bcp (2)	B.
4	Tu.	30.12	30.04	53	56	43	57	S.	S.W.	3	5	Bcm.	O.
5	W.	29.74	29.64	58	59	54	60	S.	S.	8	10	Oqpd (1)	Odr (3)
6	Th.	29.68	29.70	59	61	55	61	S.W.	S.W.	5	3	O.	Ogr (4)
7	F.	29.49	29.48	58	59	52	61	S.W.	S.	8	6	Or (1) (2)	Bcp (3) (4)
8	S.	29.47	29.45	50	51	44	53	S.W.	S.	3	3	Bc.	Bc.
9	Su.	29.45	29.51	51	50	45	52	S.E.	N.E.	3	3	Or 1) (2)	Ogr (3) (4)
10	M.	29.85	29.93	44	45	43	45	N.E.	N.E.	6	6	Og (1) (2)	Odr (3)
11	Tu.	30.18	30.22	43	47	36	49	N.	N.	4	5	Bcp 2)	Bc.
12	W.	30.30	30.26	40	41	37	42	N.E.	N.E.	4	5	O.	O.
13	Th.	30.28	30.27	37	41	34	42	N.E.	E.	3	3	Bc.	O.
14	F.	30.42	30.38	39	44	32	46	N.	N.	3	5	O.	Bcp (3)
15	S.	30.41	30.39	40	46	32	47	N.	N.	1	1	O.	O.
16	Su.	30.39	30.35	42	46	37	46	S.W.	N.	1	1	Gf.	O.
17	M.	30.20	30.10	43	47	38	49	W.	N.W.	1	1	Gf.	O.
18	Tu.	30.16	30.17	45	47	42	48	N.E.	N.E.	2	1	O.	O.
19	W.	30.26	30.22	36	38	32	40	E.	N.E.	3	3	Bv.	Bv.
20	Th.	29.97	29.84	36	39	30	42	N.E.	N.E.	7	7	Bcp.	Oq.
21	F.	29.78	29.75	38	40	29	41	E.	E.	3	3	Opsr (2)	Odr (3)
22	S.	29.73	29.72	42	46	37	47	E.	N.E.	4	5	Opd 2)	Opd (3)
23	Su.	30.04	30.06	42	46	40	46	N.E.	N.E.	5	4	O.	O.
24	M.	30.13	30.07	42	44	34	45	N.E.	E.	3	3	Bc.	Bc.
25	Tu.	29.91	29.85	40	40	38	42	E.	N.E.	3	3	Og.	Og.
26	W.	29.85	29.85	37	38	34	38	N.	N.W.	1	1	Og.	O.
27	Th.	29.96	29.94	34	44	29	45	S.W.	S.W.	3	3	B.	B.
28	F.	29.74	29.59	42	43	36	46	S.	S.W.	4	5	Oq.	Oqr (4)
29	S.	29.28	29.26	43	47	39	48	S.W.	S.W.	6	7	Op 2)	Oq (3)
30	Su.	29.60	29.70	45	49	40	50	S.W.	W.	5	5	Bc.	Bc.

NOVEMBER—Mean height of Barometer=29.945 inches; Mean Temperature=44.0 degrees;  
Depth of Rain fallen=1.25 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

**WIND.**

- 0 Calm.
- 1 Light Air.
- 2 Light Breeze.
- 3 Gentle Breeze.
- 4 Moderate Breeze.
- 5 Fresh Breeze.
- 6 Strong Breeze.
- 7 Moderate Gale.
- 8 Fresh Gale.
- 9 Strong Gale.
- 10 Whole Gale.
- 11 Storm.
- 12 Hurricane.

**WEATHER.**

- b Blue Sky—whether clear or hazy atmosphere.
- c Clouds—detached passing clds.
- d Drizzling Rain.
- f Foggy—f Thick fog.
- g Gloomy dark weather.
- h Hail.
- l Lightning.
- m Misty hazy atmosphere.
- o Overcast—or the whole sky covered with thick clouds.
- p Passing temporary showers.
- q Squally.
- r Rain—continued rain.
- s Snow.
- t Thunder.
- u Ugly threatening appearances.
- v Visible clear atmosphere.
- w Wet Dew.
- . Under any letter indicates an extraordinary degree.

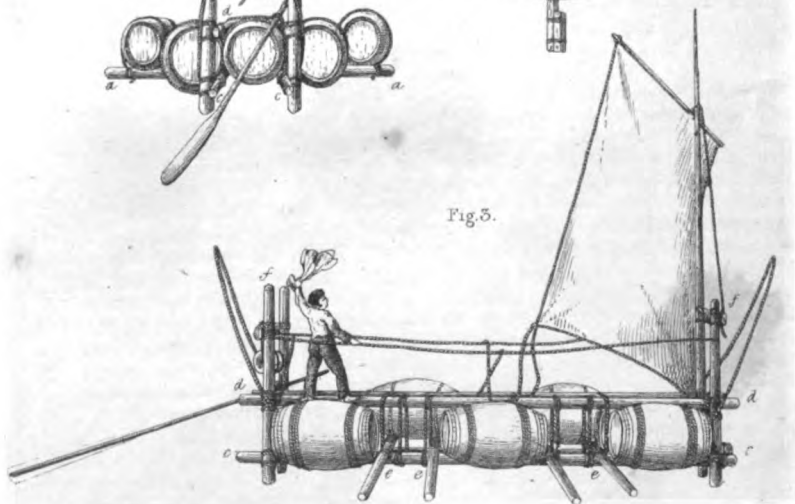
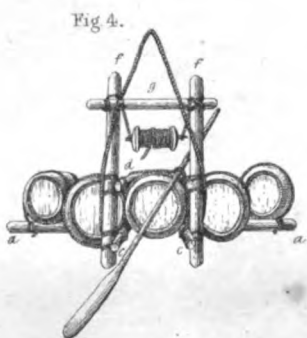
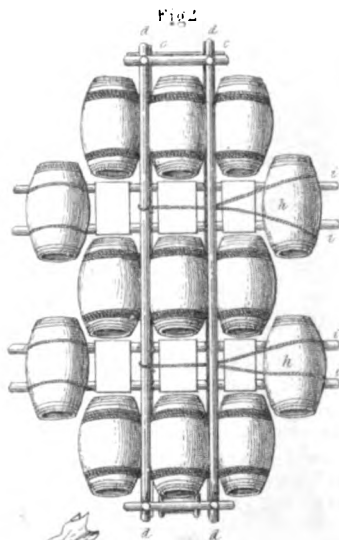
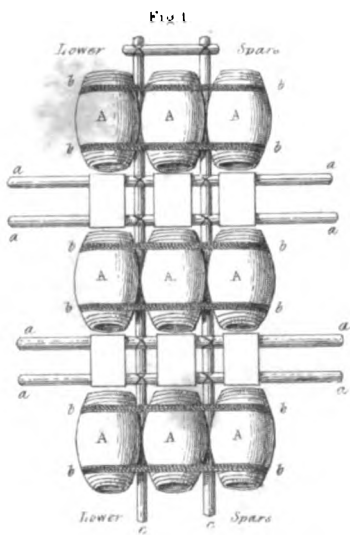
*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1) between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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CAPT. COOKESLEYS LIFE RAFTS.

C. Bradbury



# THE NAUTICAL MAGAZINE.

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FEBRUARY, 1835.

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## HYDROGRAPHY.

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"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

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### 2. LIGHTHOUSE AT SYDNEY, MACQUARIE TOWER. *From Capt. P. P. King, R.N., F.R.S., &c.*

THIS lighthouse, which is known by the name of Macquarie Tower, stands on the southern head of the entrance to Port Jackson. It shews a red revolving light, the entire revolution being performed in one minute and a half; but at the distance of five to eight miles the light never entirely disappears. The greatest brilliancy lasts from ten to fifteen seconds. The light is shewn at dusk every evening. The tower was constructed in 1818 with white stone, and stands on the brink of the cliff. It forms a conspicuous object, and the light from it may be seen from a ship's deck at the distance of ten leagues.

On running up the coast from the southward, a good offing should be preserved, if the weather be dark or thick, until the light be seen, in order to clear the projection of the coast of Botany Bay, the land of which is comparatively low. On some occasions, the current sets there to the south-west towards the shore.

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### 3. BARFLEUR NEW LIGHTHOUSE.

(*From the French Government.*)

Notice is hereby given, that, from the 1st April, 1835, the *fixed light* in the old lighthouse of Barfleur, situated five leagues E.  $\frac{1}{4}$  N.E. of Cherbourg, will be discontinued; and, instead of it, an *intermittent light* will be shewn on the lighthouse lately built, sixty-one metres (about sixty-seven yards) S.  $25^{\circ} 17'$  W. of the old lighthouse.

The new light will be seventy-two metres (about 236 feet) above the level of high-water at the equinox.

The flashes will be seen regularly every half-minute, during the whole of the night. In fine weather they may be seen at the distance of eight leagues; and the light will not disappear entirely at a less distance than four leagues.

NO. 36.—VOL. IV.

I



## 4. REVOLVING LIGHT ON THE MOLE OF ALGIER.

(Received from the French Government.)

"Notice is hereby given, that since the 18th November, 1834, a *Revolving Light* has been substituted for the old *Fixed Light*, on the Mole of Algier, continuing throughout the night, and the light disappearing regularly every half-minute.

"In fine weather, the flashes may be seen at a distance of five leagues.

"The light does not disappear entirely at a less distance than three leagues.

"*Hydrographical Office, Admiralty,*  
27th December, 1834."

## 5. NEW LIGHTHOUSES IN THE CATTEGAT.

Information having been received of the two new lighthouses erected on the Niding Rock, on the coast of Holland, in the Cattegat, being now so far completed, that coal-lights, under covered lanterns, may be exhibited from them on the 15th of December, in the current year, the Department for managing matters appertaining to navigation do hereby give notice, for the information of mariners, that the new lights will commence to be exhibited from the said lighthouses on the aforesaid day, and, that the lights in open pans hitherto used, will thenceforward be discontinued.

The new lighthouses, which are built of granite, are of a sexangular form; their elevation above the rocks, including the lantern, is forty-four feet, and the rock itself fifteen feet above high-water mark. The width of the tower is twenty-two feet. The focus of the flame in the lantern will be fifty feet above the ordinary level of the sea. Two-third parts of the towers, from the rock upwards, are painted in the stone joints, the upper one-third part being white-washed, for the better guidance of mariners.

The lanterns are painted white. The true bearing between the towers is, N. 47° E. and S. 47° W., or N. 67° 30' E. (E.N.E.) and S. 67° 30' W., (W.S.W.), by compass; and at these points the lights and the towers have the same bearing. The medium distance between them, 100 feet. The lights, viewed from a ship's deck, ten feet high, ought, in clear weather, to be seen at the distance of full three German miles; and, from one of fifteen feet in height, at the distance of three miles and a half.

On the north side of the towers a stone building has been erected, forty-eight feet in length and twenty feet in height, with a roof nine feet high, covered in with tiles. The building is painted in the stone joints, and has three windows on one side, and two windows and a door on the other side. On the side of the western tower a steeple is erected, in which a large bell is fixed, which will be tolled at certain short intervals, or at least every quarter of an hour, in thick and foggy weather. Besides which, a wooden shed for coals has been erected, close to the towers.

These lights will, like all other Swedish lights in the Cattegat, and the Baltic, be continued throughout the whole of the year, from half an hour after sunset until half an hour before sunrise.

A boat will be kept in constant readiness at the rock.

*Stockholm, Nov. 20.*



6. OBSERVATIONS ON THE WINDS AND CURRENTS IN THE GULF OF LEPANTO, and the Anchorages of Vostizza and Patras. By Captain Sir John Franklin, R.N., commanding H.M. Ship *Rainbow*, 1832.

(Continued from page 455, No. 30.)

Compass Bearings.

MALTA.—The ship was at Malta during the months of April, May, and June. These months were unusually cool. The inhabitants attributed this coolness to there having been much more wind and rain than usual during the winter.

We went from Malta to Nauplia, and on the passage, towards Matapan, found by the observations, as we had previously observed, that the ship was daily set by the current to the S.E. from twelve to eighteen miles.

From Nauplia to Tenedos nothing occurred worthy of remark, nor need I say any thing respecting the passage between Tenedos and the main, or of the anchorage in Basikia Bay, as Captain Copeland was surveying in those parts at the time we were there. The least water we had in crossing the shoal part between Tenedos and the main was four fathoms and three quarters, being then nearer than midway to the sandy spit that juts from the main, opposite Gathronisi Island. In mid-channel we carried six, six and a half, and seven fathoms. The latitude of our anchorage in Basikia Bay was  $39^{\circ} 53' 31.4''$ ; longitude  $26^{\circ} 8' 2''$ .

The difference in time shewn by our chronometers between the mills, or watering-place opposite Nauplia, and this anchorage, was 0 h. 3 m. 44 s.; the longitude of these mills being  $22^{\circ} 42' 00''$ . Variation at Basikia Bay,  $9^{\circ} 48' W$ .

ROCKS IN THE HYDRA AND SPEZZIA CHANNELS.—We returned to Nauplia by the Hydra and Spezzia Channels, and were called again to remark the imperfections of our chart, as to the islands and rocks which are scattered between Hydra and Spezzia, and lie much in the way. Three rocks, of six feet, twelve feet, and eighteen feet, have been discovered among the Stratonisi Islands, and two of twenty-one and twenty-three feet between Trikeria and Spezzia, which are not noticed in our charts; all of which are steep to, so that the lead is not a sufficient guide to avoid them. The rocks of Cape Miliano are likewise imperfectly laid down in the chart. This part, I believe, has now been surveyed by Captain Copeland,\* as well as by Mr. Easto and Mr. Elson, masters of the *Britannia* and *Madagascar*.

HYDRA AND SPEZZIA CHANNELS.—As the passages of Spezzia and Hydra, as well as those among the intervening islands, are much frequented by ships going between Nauplia and the eastern parts of the Archipelago; and they are likewise places in which ships are very liable to be becalmed, and exposed to the currents, where there is no anchorage; it seems particularly desirable that a good chart of these parts should be supplied. As an instance of the uncertainty of the currents, I may mention that the *Rainbow*, when nearly midway between the point of Kastri and the island of Hydron, or Dhoco, in the course of half an hour, was driven by the current, in a calm, so close to Hydron, that we were only prevented from being forced on the shore by the boats towing her head round. The depth of water was twenty-five fathoms, and thirty-five fathoms, at less than a cable's length from the shore.

PIRÆUS.—We anchored in the Piræus for one night. The entrance into the Piræus is known by a pile of stones on the south point; and you may haul

\* We believe this chart is in a forward state.



round this at three cables' distance into the outer harbour, where there is anchorage in fine weather; but it is exposed to west winds, and the ground is said to be foul. A ship would have but little room to cast even in mid-channel, if the wind set in strong. After the point aforementioned, on which the pile of stones stands, and two other points, have been rounded, the houses of the Piræus open to view, as well as the collection of stones, or remains of pillars, on which the Lions formerly stood, and between which a ship must pass, to enter the Piræus. Before you reach these pillars, you will see a heap of stones, about four feet high, near the starboard shore, which must be left on the right hand on going in. These stones stand about 130 yards to the west of the southern pillar, and may be approached as near as twenty yards. The course must be nicely shaped from these stones, so as to steer exactly between the pillars of the Lions, which lie nearly north and south of each other, and are only thirty-five fathoms separate. This breadth is reduced to thirty fathoms, or 180 feet, for a ship, in consequence of there being about three fathoms projection of the base of the rock from each pillar, over which there is not more than fifteen feet water. Having passed through this channel, the Piræus opens into a nearly circular basin, in many parts of which there is sufficient water for any ship to anchor. One of our seventy-four-gun ships has anchored in it. We anchored about 250 yards within the "narrows," and immediately opposite the centre of it, in eight fathoms and a half; but the best berth is about three cables' lengths to the south-east of our anchorage, nearer to the hill on the south-east side, than the middle of the port, where there is seven or eight fathoms water. There you would have room to veer, if necessary, to any extent of cable, and also to cast the ship with the land breeze, if you should think it proper to go out under sail. But this means is seldom recommended to be taken, on account of the probability of the wind proving variable before you have passed between the pillars of the Lions, and beyond the heap of stones, to the westward of them. It is more advisable to wait for a calm, either to warp, or tow out, as we did. Our soundings in going in through the outer harbour were  $15\frac{1}{2}$ , 16,  $15\frac{1}{2}$ ,  $14\frac{1}{2}$ ,  $14\frac{1}{2}$ ,  $14\frac{1}{2}$ ,  $14\frac{1}{2}$ ,  $13\frac{1}{2}$ ,  $12\frac{1}{2}$ ,  $10\frac{1}{2}$ , 12,  $11\frac{1}{2}$ ,  $4\frac{1}{2}$ , and  $4\frac{1}{2}$ ; the least water being about twelve fathoms distant from the outer heap of stones; then,  $6\frac{1}{2}$ , 10,  $12\frac{1}{2}$ , 12, 12,  $10\frac{1}{2}$ ,  $9\frac{1}{2}$ ,  $8\frac{1}{2}$ , and  $8\frac{1}{2}$ , up to the Narrows, and within the pillars of the Lions, sufficient depth of water was found, as far as the middle of the basin, and on the south-east shore, for any ship. The water is even deep at the distance of five or six fathoms on either side of the walls that connect the pillars of the Lions with the shore.

It is shallow near the town, and on the north side of the port. The Piræus may be considered an excellent harbour to refit a ship in; all the dangers of entering seem to be apparent, and the only cause for anxiety is its narrow entrance. Once within the walls, no sea can reach, that would either hurt the ship or stop the operations. The bearings of our anchorage were, North Lion rock N.  $87^{\circ}$  W.; South Lion rock S.  $72^{\circ}$  W.; south extreme of Salamis, N.  $85^{\circ}$  W.; Anter rock, or Themistocles tomb, S.  $85^{\circ}$  W.; Acropolis of Athens, N.  $80^{\circ}$  E.; highest part of Mount Hymettus, S.  $81^{\circ}$  E. As a ship in entering the Piræus must be entirely guided by the objects I have mentioned, I have thought it quite unnecessary to give either the course to be steered, or any leading marks.

Monastery Bay having been surveyed by Captain Copeland, I need only remark, that we were entirely guided by his chart, and anchored in seventeen fathoms and a half, as near as possible in the spot indicated by the anchor. This is a safe port for the summer months, but appears too much exposed for a winter anchorage. The harbour of Poros (perhaps the most spacious in Greece, and the most secure) must be used in that season.



**NICARIA, ZEA, THERMIA, TINOS, AND MICONI.**—The channels between Zea and Thermia, Tinos and Miconi, through which we sailed in our subsequent passage to Scala Nuova, have been so long frequented as to render any description of them, at this time, unnecessary. Soundings were gained in 44 and 45 fathoms, about  $\frac{1}{2}$  of a mile from a craggy point at Tinos, near the eastern outlet of the channel. Just as we had escaped from the channel, there was a heavy squall from the high land of Tinos, though we had had calms and light airs for several hours before. We therefore can, from experience, join in the caution of either not carrying lofty sail when near its shore, or being always ready to take it in at an instant. We experienced a strong southerly current and swell in crossing towards the coast of the Levant, which carried the ship much nearer the shores of Nicaria than the course steered led us to expect. After we had passed the N. W. end of that island, the wind fell entirely, when we were seven or eight miles from the shore. The ship was driving towards it under the influence of the swell and current, when the breeze came from the N. W., which enabled us to make sail to the N. E. It seems therefore advisable at all times to give this island a berth of several leagues.

**SCALA NUOVA.**—The Bay of Scala Nuova is formed by an indentation of the coast about a mile in depth. As the island of Koosh Addassy is separated from the main by a very narrow channel, which is shut in at the anchorage, that island, and a remarkably white cliff to the N. E., may be considered as the projecting points of the bay. These points are nearly two miles apart, but in consequence of a very dangerous spit stretching out  $\frac{1}{2}$  of a mile to the west from the white cliff, which must not be approached nearer than to 8 fathoms water, the navigable channel is reduced to a space of little more than one mile and a quarter, the deepest water being near the island. We first struck sounding in twenty fathoms when at the estimated distance of a mile and a half from the largest minaret in the Turkish quarter of the town, and speedily shoaled to 18, 16, and 13 fathoms; the anchor was dropped in 13 fathoms and three quarters, but after veering to 46 fathoms, and swinging to the wind from S. W., the ship's stern, by trailing towards the spit, was in 10 fathoms. The bearings then taken were:—the centre of the castle on Koosh Adassy, S. 65° W.; extremes of that island from S. 58° to S. 70° W.; the loftiest minaret in the Turkish or lower town, S. 4° E.; the white cliff above mentioned, N. 50° E. Point of Ephesus bay, N. 17° E. entrance to the Ephesus river, N. 12 E.; Hypsili port, N. 47° 30 W.; entrance to Port Vathi, S. 81 W.

The best berths, which, however, are in 13 or 14 fathoms, and nearer to the island, were then occupied by merchant vessels, which prevented our taking them.

Scala Nuova bay is entirely open from N. to S. W. by the west, between which points, during summer, the sea-breezes invariably blow, they are often strong, and always throw in a heavy swell. The holding ground is good, but this bay cannot be considered a secure anchorage for vessels of any size. The coasters and smaller merchant vessels obtain some shelter from the swell by hauling close, either to the main shore, or to the island, and securing with a warp. In these situations they could not lie with safety, if the wind blew fresh from the north and north-east. During the summer months, when the sea and land breezes are alternate and tolerably regular, ships can get out of this anchorage in the night or early morning; at which times, the boatmen told us, the current generally sets out of the bay, which it is natural to suppose would be the case, from the water forced in by the sea breeze seeking its level as soon as that breeze had subsided. If a



smart ship were anchored well over towards the castle, and the swell was not very heavy, she might perhaps be able to weather the spit, and get out with the sea-breeze, though no ship could have attempted it with safety from our anchorage.

The longitude of the white cliff was observed to be  $27^{\circ} 16' 31''$  E. Variation at the same place  $14^{\circ} 10'$  W. The difference in time shewn by our chronometers between our anchorage in Monastery Bay and this cliff was 14m. 59s. 9.

Provisions and wood can be procured in abundance. Water may also be had from the fountains in the town, but not in any considerable quantity, for a ship of war. The times for watering must be the night or early morning, when the swell has gone down. The town of Scala Nuova is said at present to contain about 8000 inhabitants, of whom 800 are Greeks, 200 or 300 Armenians or Jews, 2000 Turks, or Mahomedan Albanians, as they are styled, who were driven from the Morea at the commencement of the Greek revolution, and the rest Turks proper. The Turkish population reside in their own quarter of the town, which is walled, and the gates are closed every evening. Several of the Turks from the Morea reside in the Greek quarter, which is built on the side of the hill. The export trade of Scala Nuova is dried fruit, corn, beans, a little wine, some cotton, and occasionally valonia, which are principally shipped in Greek, Austrian, Sardinian, and Ionian vessels. English merchant vessels are rare, and only come for valonia. There were two vessels loading corn, an Austrian and a Genoese, for Constantinople, in consequence of the crops having failed on the shores of the Black Sea the last season. There is a fortified castle on the island of Koosh Adassy, which appeared externally to be in tolerably good repair, but to have few guns.

There may be also a few guns behind the walls of the Turkish quarter, which we did not see; but from the decayed appearance of these walls, I suspect these guns could not be fired with safety.

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7. REMARKS ON THE ISLAND BARBUDA, *by Mr. James Goodlet, late Master of the Jean Stewart, wrecked there on the 10th June, 1834.*

The town and castle of Barbuda are situated on the western side of the island, on the edge of a beautiful lagoon, about eight miles in length, and one and a half in breadth, abounding in excellent fish of different kinds. The entrance of the lagoon is on the north-west side of the island, about forty fathoms broad, with from two and a half to three and a half feet water, sand and mud. There are several small islets and shoals in different parts of this fine lake.

The castle is in latitude  $17^{\circ} 45' 24''$  N.; North point of Goat Island  $17^{\circ} 54' 24''$  N.; South-East end (Spanish point)  $17^{\circ} 32' 30''$  N.; landing at the river, where there is a fort and martello-tower, with a flagstaff on it,  $17^{\circ} 41' 39''$ —the fort is in bad condition, with a breach on its south side, mounts nine guns—height of the tower, fifty-six feet. Lat. of S.E. end, where the Jean Stewart was wrecked, on the beach opposite the vessel,  $17^{\circ} 34' 48''$ . Wreck S.E. by E., distant one mile and three quarters from the shore.

From the centre of the island to the north end, the land rises gradually to the height of 170 feet above the level of the sea; this terminates the head-land abruptly into a level plain on the north, about two miles north and south, and about six miles east and west. On this head-land is the ancient residence of



the Codrington family; the house is still standing, though in a ruinous condition, the walls white, and, being fifty feet high, may be seen from a good distance; the out-buildings and offices are still good. There is also a large tank, capable of holding ten months' water. This white house can be seen a long way off in clear weather, but cannot be approached nearer than seven or eight miles, on account of the very dangerous reefs surrounding the island, extending out on the north-west and south sides to five and six miles, and on the west side even as far as eight miles. The reefs extend on the east side from two and a half to three miles, with very deep water along the edge. From the north end of these reefs, on the east side, to the south extremity, there is no entrance whatever, not even for boats, which is the cause of all goods saved from wrecks to be carted to the castle, or to Grasmor's Landing, to be sent to Antigua for sale. The island being overgrown with wood, fresh roads have to be cut for every wreck.

This island is entirely surrounded by reefs of a very dangerous kind, as vessels may in the day time be aground before they are observed, unless a very good look-out is kept: the outer edge of the reefs have from three to eight feet water on them, that is the south, west, and north sides of them.

There are several anchorages: that of Grasmor's Landing, on the south side, about one mile and a half from the Spanish point, has about from twelve to fourteen feet water; but, to enter this channel, you must run down outside of the reefs, until Cocoa Point bears N. by E., when you will see the western edge of the reef square, with the water about three miles and a half off shore: round this close to; keeping a good look-out for the brown patches, as you beat up, between the outer and inner reefs. These brown patches are all ragged coral rocks, from about one to three feet below the surface, and are so numerous, that only small vessels, and they with difficulty, anchor in the roadstead, and must be well acquainted to gain the anchorage.

The best anchorage is off the fort at the south-west end of the island, (called the River,) with the fort bearing north, in about seven or eight fathoms, sand and mud, one mile and a half off shore; this is very unsafe for large vessels, as the reefs both to windward and leeward extend a long way out to the southward.

The vessels belonging to the island run in between the rocks, and anchor in from ten to twelve feet, about forty fathoms from the beach, on a sandy bottom, close under the fort.

This being the principal exporting place on the island, the road from thence to the town is very good; should a stranger land here, and hoist a flag on the fort, horses will always be sent down to meet him.

There is also an anchorage on the north-west side, to enter which is very dangerous, the reefs extending so far out to sea, and many invisible, so much so that you may be aground before any danger appears. I would advise none but those well acquainted, to attempt this anchorage, and even to them there is always danger. Any description of this anchorage I conceive unnecessary, as no vessel of any size can approach the island nearer than seven or eight miles, without incurring the risk of grounding on the reefs even in the day-time, they are so deceiving.

#### *On the Currents between Barbuda and Antigua.*

The currents between these two islands are very deceiving. After the loss of the Jean Stewart, and during my stay with Mr. Winter there, he often informed me of the currents of this part of the West Indies, which much surprised me, and which I saw a proof of between the 11th and 20th. Being always on the beach after the sinking of the vessel, many of the articles washed



off the deck, were on the first day washed to the north-east end of the island, and before we landed, many of the water-casks were on the beach before us, about two or three miles to the northward.

After the 20th, going and coming every other day between these islands, I remarked, that from nearly full moon to the last quarter the current set very strongly to windward, sometimes at the rate of from one to one and a half mile per hour, although the course from the River's anchorage to the Sisters, going into Antigua, was south by compass, and generally from nearly full moon, and two or three days after, was obliged to steer S. by W. and S. S.W.; when, after full, and towards last quarter, S.S.E., and S.E. by S., and N.N.E., and N.E. by N., which is a proof of some regularity in the motion of the sea here-about, at the above periods of the moon. How far this extends to the eastward of the islands, I cannot pretend to say, but should think it must affect vessels three or four degrees off; and, should thick weather then come on, the danger must be great, without a knowledge of this current. My own unfortunate case is a lamentable proof of this.

### 8. LIGHT ON CALSHOT CASTLE.

On the first day of January was, and, until further notice, will be exhibited on the top of Calshot Castle, a brilliant light, in two colours, viz.: the *bright* or *clear* will be visible to ships coming to Southampton water, from the westward, when abreast of Stone Point, and about two cables' length from the shore, which will continue until abreast of the West Buoy of the Brambles, when a *red light* will be seen until to the eastward of the line of the Checquered Buoy of the Brambles, and the Buoy of Black Jack off the Castle, when the clear light will be visible again, and keep them clear of Cadland's Point in running up, if not shut in to the westward—the light being set to reflect only as far to the westward as the West Buoy of the Brambles, and to the Checquered Buoy to the eastward. At high-water, it is presumed it will make a safe running-light to the river from Spithead, and to Cowes or Southampton, in crossing the west channel.

N.B. Ships coming from the westward must judge their distance from the shore.

Southampton, December 26, 1834.

### 9. NEW BUOY ON MARGATE SAND.

“Trinity-House, London, 15th Dec. 1834.

“Notice is hereby given, that, in pursuance of the intention expressed in a notice issued from this house on the 14th ult., a buoy, checquered *black* and *white*, has been laid on the north-eastern projection of Margate Sand, in four fathoms at low-water, with the following mark and compass bearings, viz.:—

A Windmill on the Back Land, in on with the first House next Westward of the three Windmills at Margate, bearing	S. by W. $\frac{1}{2}$ W.
North Foreland Lighthouse.....	S. $\frac{1}{2}$ E.
North Spit Buoy.....	W. N.W.
East Tongue Buoy.....	N.W. $\frac{1}{4}$ N.
East Buoy of Margate Sand.....	S.S.E. $\frac{1}{4}$ E.

“By Order,

“J. HERBERT, Secretary.”



## ORIGINAL PAPERS.

## I.—LIFE RAFT, PROPOSED BY CAPTAIN JOHN COOKESLEY, R.N.

SIR—The tempestuous weather of last winter, attended as it was by such lamentable loss from shipwreck, when in so many instances the ordinary means of saving lives and property totally failed, induces seafaring men to consider and suggest the means of preserving them, under similar circumstances, in future; and, no doubt, such an object is worthy of our best attention in this great maritime country. Actuated by the desire of assisting in the accomplishment of this important object, I have reconsidered a method I formerly adopted, when in command of H. M. S. Hazard, of constructing a raft for the purpose of blacking the bends, &c., to save my boats from this dirty work. Rafts of this kind were prepared with great facility; and, with a view of converting them (should occasion require) to the purpose of saving lives in the hour of shipwreck, it was my practice to exercise the crew frequently in preparing them, so that they might do it quickly. By this means, such was the expertness they attained, that in about a quarter of an hour the raft was formed, and hoisted out with a single yard-tackle, like a jolly-boat. It was constructed on a principle different from any that has been yet before the public, and upon a more extended scale, not being limited to saving a few lives, but entire ships' companies. Impressed with the conviction that rafts of this kind may be the means of saving many lives, that might otherwise be lost to their afflicted families and to their country, I beg leave to forward you a model, and the accompanying drawings and instructions for making them, with a request that you will give the latter a place in your highly esteemed periodical publication. I must take the liberty of adding, that as it is my wish to make this raft known to the officers of the navy, and the merchant service generally, I shall be much gratified in seeing it acquire publicity through the respectable channel I have solicited, in a work so generally circulated as your magazine among nautical men throughout the United Kingdom.

I am, Sir,

Your most humble servant,

JOHN COOKESLEY, Captain, R. N.

*Instructions for forming a Raft for the saving of lives in the hour of shipwreck, or from a ship on fire, or foundering at sea.*

Fig. 1. Represents nine empty casks, A, with band-lashings, and cross-spars a, to lash the wing-casks to. The casks are to be placed on a part of the deck most convenient for hauling out by the yard-tackles. Place them in three sets, as represented; each set about three feet apart (supposing these casks to be half tuns or butts), and in an exact line. Then pass band-lashings or



wouldings, *b, b*, round them, securing the ends of all the three casks together. A few men being placed at each set, this operation will be going on, and the three sets will be finished about the same time. Each of these sets of casks, when the ship is in great motion, may be placed upon their ends, and the band-lashings passed round them in that position.

Being thus prepared, lay a couple of spars *c c* along the deck under the casks, and *underneath* the band-lashings; then lash the cross-spars *a a*, to receive the wing-casks.

Fig. 2 represents thirteen empty casks, four wing-casks being added to the nine shewn in fig. 1. Two spars *d d*, as upper main spars, are then to be placed *over* the band-lashings, along the upper cantlings of the casks, and immediately over the lower spars *c c*.

Fig. 3. represents a side view, shewing the position of the upper and lower spars, *c* and *d*, before the starboard wing-casks are lashed, to shew the lanyards passed round the upper and lower spars. These lanyards are chiefly instrumental in combining and effectually securing the main frame of the raft, and preventing the casks from having the least play, acting like a screw in compressing the spars tightly down on the band-lashings, and are thus passed:—The lanyards, *e e*, being passed, with a spar of sufficient length to cross the raft, make a Spanish windlass, with which you heave tight, and set up the lanyards starboard and larboard at the same time. By this operation the casks cannot have the least play, and this is a most essential quality in a raft, as every cask when so secured will bear its proportion of the weight with which the raft may be laden, nor can the sea shake them. This figure also represents the raft complete, with boat sail, deep-sea lead-reel, stanchions, ridge-ropes, and an oar to steer with.

Fig. 4. represents a stern view of the raft. Two upright spars *f f*, are lashed to the ends of the spars *c, d*, as shewn in the sketch. To a pair of these the cross-piece *g* is secured, to receive the deep-sea lead-reel. The intention of this reel and line is to make fast the end of line to the vessel before you leave her, supposing she is wrecked upon a lee-shore. The reel requires no attendance; men have enough to do to attend to themselves on these occasions. After having landed a party from the raft, you have then a rope to haul off again, or to get a larger rope on shore. With respect to getting a line from the ship to the shore, you can effect it with means placed within the reach of all mariners, made up of materials always at hand, with a certainty of success far surpassing rockets or mortars. The object of merely getting a line on shore may be effected with a small raft made up of four casks, placing them in pairs two abreast, at proper distances asunder, and securing them on the same principle as the large raft, using two spars instead of four; then with two handspikes run through the bung-holes and bottoms of the two after-casks, driving them home tight, form a rail, by securing a cross-piece from one handspike to the other, on which hang the deep-



sea-lead-reel. At the other end of the raft set a small-sail, or board, and, without placing a man on her, she will steer herself before the wind ashore, as, whenever she may be inclined to yaw, the lead-line would always have a tendency to check her, and keep her before the wind; the same wind that blew the ship ashore will blow the raft on shore.

I have here confined my attention generally to a ship driven on a lee shore; I should have observed, though that dreadful occurrence happens sometimes without any warning, as in a dark night, yet it more frequently happens under circumstances where you see your danger for many hours. It frequently happens that it is blowing a gale of wind dead upon the shore, and a vessel cannot clear the land on either tack, she must inevitably be driven ashore; no alternative is left, but to look out for the best landing-place. There is plenty of time to prepare a raft, which, I hold, ought not to take long with the crew of any ship. If the crew be few in number, a small raft will answer the purpose. Six casks, for instance, in two sets of three each, placing the sets so far asunder as to give it good length, with a platform between them, made up of a few planks or spars, would accommodate the whole crew.

The raft being prepared, tackles hooked, and all ready to hoist out, it should be lowered into the water, people placed thereon before the ship strikes, and so proceed to the shore. In the event of the ship being on fire, or foundering at sea, the boats being unequal to the saving of all the crew and passengers, a raft may be formed, or as many as are necessary for all the people, as, in a man-of-war, half a dozen rafts may be preparing at the same time; but in the rafts prepared for a purpose of this kind, the heads of the casks should be brought close together, or the spaces between the heads be filled up with ship's companies' hammocks, or made-up sails, or dunnage of some kind, to form a platform on the top of the casks for the people, as also to protect the heads of the casks, when likely to be some time exposed to the sea; the centre casks on those occasions, being filled with provisions, will be sufficient ballast. To give stability to the raft; a canvass covering should then be nailed over the entire surface.

All these arrangements, however, must always greatly depend on the discretion and management of a judicious officer, as all inventions *must* do. Having once established the principle and method of forming the raft, an officer will make it large or small, according to circumstances: if a large raft be wanted, two main frames, of nine or twelve casks, may be united in one, by securing spars across both, like beams, and both these rafts being getting ready at the same time, there will be no time lost. A raft of thirteen half tuns, or butts, being the casks commonly used in ships of the navy, would displace more than six and a half tons of water, when we take in what the spars displace and the frames of the casks. Fifty men, on an average, will weigh little more than four tons.



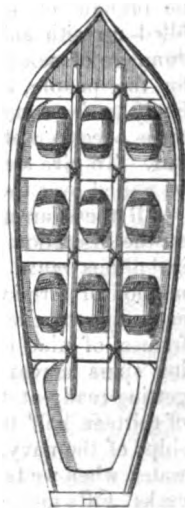
A cask may also be readily prepared in case of emergency, by shipping a handspike in the bung-hole, making a hole through the opposite bilge, driving it tight-home nearly to the club, and securing a piece of pig ballast, or deep-sea lead, to the club, as represented in fig. 5. This balancing weight will prevent the rotary motion of the cask; and a man may sit on it, holding on by the small end of the handspike, securely. This sort of life-buoy might always be made on board any merchant-ship, and slung to the taffrail, ready to cut away when a man falls overboard.

*Plan of taking a Bower Anchor, out on a Raft of thirteen empty Casks.*—Suppose the anchor to be that of a line-of-battle ship, weighing perhaps four tons, or more; a raft of thirteen half-tun casks will carry it. There are occasions on which a bower-anchor being carried out from a ship on shore, may save her from destruction, and no ship's boats are equal to this operation.

For this purpose, place the anchor on the centre of the raft, and prepare two wing-casks, *h h*, with slip-ropes, *i i*, as represented in fig. 2. Supposing the raft to have been towed or hauled out to the required situation, by letting go the slip-ropes the two casks will slip off the raft, and, for want of their support on that side, she capsizes, and the anchor goes to the bottom. The slip-ropes should be let go by two boats on the opposite side of the raft from which the casks are to roll off; they should be fastened on that side with running nooses, and the boats should pull away from the raft the instant they are let go.

*Plan for preventing any Boat from sinking, when having to encounter an overwhelming sea, or when obliged to leave a Ship in a sinking state in the open ocean.*—The annexed sketch represents a boat so prepared, the process being performed much in the same manner as the raft I have been treating of.

Suppose the nine casks in the boat to be empty gang-casks, which most boats are provided with. Pass band-lashings over them as in the raft, then place two spars over the band-lashings, securing the fore-ends down to the fore-thwart, and the after-ends tight down to the after-thwart. Thus the casks are kept tightly down on the bottom boards of the boat, so that no water can get under them, and are firmly secured from floating out of the boat. If the casks should be butts, they are just the kind and number of casks which a line-of-battle ship's launch carries. The boat is thus rendered secure from sinking, and will float with her crew, though a sea may fill her to the gunwale. The centre casks might be filled with provisions, and she would still float.





I am aware that Captain Manby's excellent life-boats are prepared with empty casks; but his boats must all be previously fitted for the purpose, and the casks fitted to the boats. We know that ships do not carry boats so prepared, or perhaps some may think they would not so well answer for the ordinary duties of the ship, if so prepared. The plan I have proposed will answer for any boat without any previous preparation whatever, and it is obvious they may be got ready at the shortest notice. What are called gang-casks frequently remain in the boat at sea, and which of course would facilitate the work; even if boats were fitted with ring-bolts, &c. &c. for securing casks, it could not be done so quickly or so effectually as by this method. In the event of a ship being on fire, or foundering at sea, perhaps hundreds of leagues from the land, boats thus prepared with the centre casks full of provisions might be safely depended on.

In comparing the raft I have here recommended, with the models exhibited at the various institutions in this country, ingenious as some of them certainly are, yet they are so limited in their construction, they cannot be enlarged or contracted, to accommodate the number they may be required to carry, and are not calculated to save lives from shipwreck. Some of them consist of frame-work or scaffolding made of spars, and most ingeniously contrived to keep people up above the surface of the water, but they can only carry few. I should have observed, this scaffolding is floated by casks secured to the heels of the spars; but how could this work go on upon a deck, at a time perhaps when the best sea-legs can hardly stand? This is so obvious, that I believe these kinds of rafts have never been actually practised in time of shipwreck; nor can they make sail on any of these rafts; nor are they under the guidance of a rudder or oar, to steer them: in short, they are not at all calculated (any that I have seen) to save people in the hour of shipwreck; nor were they, I apprehend, intended for this purpose by their ingenious inventors.

The time of year is now at hand when we may expect a return of the accompaniments of the season—storms and disasters. Sailors are too apt, when in a state of ease and security, to forget their past dangers and narrow escapes; but in the hour of peril, who is the most cool and collected, and always ready to command and perform the duties of his station, undismayed amidst the war of elements? but the man whose mind is stored with resources to combat all difficulties, and the last and greatest is to save the lives of his crew. With this view I have here recommended my plans to public inspection; and the gratification it will afford me of finding them answer their intended purpose will always be for me a sufficient reward. I doubt not their efficacy if put to trial.

Models of the raft have been sent to the Admiralty, the Society of Arts and Sciences, the Shipwreck Society, 21, Austin Friars, and the Admiral's Office, Portsmouth and Plymouth.



II.—REMARKS ON MOGADOR. *By the late Capt. T. Boteler, R. N.*

It is the practice on the coast of Barbary to set fire to the parched up grass towards the end of the fine season, in order that it may spring up with renewed vigour under the vivifying influence of the approaching rains; and this, in the middle of August, and in the parallel of about  $35^{\circ}$  N., was the source of the first indication of the vicinity of land which we found in approaching El Araiche. At 55 miles off the shore, the sun set red in a dense haze; for the first time, heavy dew fell; and the air became so strongly impregnated with a smell of burnt turf, that, had not our chronometers shewn to the contrary, we should have been led to imagine ourselves close to the shore, especially as, from the direction of the wind, N.N.E., N.E., and afterwards north and westerly, blowing at first a little on, and afterwards fully upon the land, we could hardly have expected that a fire, however large, could affect the atmosphere at sea, otherwise than a very few miles off. As we approached the edge of soundings, the haze which had hitherto prevailed was succeeded by a dense fog. At fifteen miles off shore no bottom could be obtained, but at five miles from it we struck soundings in forty-two fathoms, mud; which, with the same quality of bottom, gradually decreased to the shore, excepting at the bar of the river, where it suddenly shoaled from eight fathoms to a few feet. The thermometer, through the heat generated by the fires on shore, also evinced a change quite sufficient to place a careful navigator on his guard, when making the land, as did also the number of land-birds, the great prevalence of medusæ, a slight whitish tint upon the water, and the great quantity of weed or grass, resembling narrow slips of white silk, and apparently disembogued from the rivers.

These indications, however, which depend upon the fires on shore, are of course, as I have already shewn, only periodical; but, whether the rest are so, experience alone can prove, especially when, as in my instance, all attempts to gain information on this point, and others, from the natives, were thwarted by their dread and suspicion of us.

Mogador or Suerrah\* is a large town erected partly upon a mass of rocks, and partly on the low desert of accumulating sand which

\* Latitude  $31^{\circ} 30' 6''$  N., longitude  $9^{\circ} 44' 5''$  W., East of Consul's House, Santa Cruz, Teneriffe,  $6^{\circ} 30' 4''$  W.; variation  $20^{\circ} 9'$  W. Loftiest mosque in the town being the most conspicuous object.

The name Suerrah, however, is scarcely used by any others than the natives, the Europeans preferring that of Mogador, which derives its origin from a tomb close by, erected to the memory of a Mohamedan saint, called Seedi Mogadol. Ogilby, however, in speaking of this island, calls it Mogador, or Mongador, and states that the king of Morocco had there a strong castle, with a good garrison in it, to defend his gold and silver mines in the neighbouring mountains. It has now forts on it, wherein the emperor keeps his state prisoners.



connects that mass with the inland ridge of the Boutof Sand-hills. It was built in the year 1760 by the Emperor Seedy-Mohammed-Ben-Abdallah-Ben-Ismael, who laid the foundation-stone himself, and denominated the place Suerrah, or the beautiful, in allusion to the superior excellence of its geometrical construction, over the confused style of the other Moorish towns. Yet, to a stranger, there is nothing in this that appears to be worthy of so distinguishing an appellation, for the streets are so miserably narrow, and in most instances so short, that all idea of geometrical uniformity is lost.

The emperor was directed in his choice of the site of Mogador by the idea of its superior excellency as a sea-port, over other parts of the coast; and he was the further induced to adopt the plan of immediately building there, on account of the jealousy he entertained of the hitherto principal sea-port of Santa Cruz, or Agadeer. There was evidently good reasons for this, as, some years after, the governor of Santa Cruz found himself so enriched by his port-dues and extortions, on the great commerce of the place, as to be able to attach to himself a strong party in the neighbouring country. Thus, he was preparing to rebel against the power of the emperor, and to hold his government independent of him; and this would be rendered the more easy by the peculiar situation of Santa Cruz as a frontier town, and its distance from the emperor's military resources. However, the prompt measures of the emperor defeated the rebellious project of the governor, who was enticed to deliver himself up by the promise of pardon. It would appear there was but little chance of his obtaining it, for he escaped execution as a criminal by cutting his throat with a penknife, which one of his friends had baked in a loaf of bread, and sent to him for that purpose. This projected rebellion of Santa Cruz led to the partial reduction of its strength, and to the total removal of its commerce to Mogador. The same arbitrary measure was also adopted with the other ports on this coast, and consequently from that period this newly-established port of Mogador became rich and prospered.

When Mogador became established, there were never less than twenty or thirty vessels in the bay. The exports consisted of wheat, oil, wool, almonds, barley, and Guinea corn, ostrich-feathers, ivory, copper, and other produce of the country; and, about twenty-five or thirty years after, calf and goat skins were added to the exports, to a very considerable amount.\* The imports were at first chiefly from Holland, Hamburg, and Marseilles; great quantities of linen of various qualities, and other articles of German, French, and Genoese manufactures.

The commerce of Mogador, on the commencement of the French revolution, fell principally, and afterwards entirely, into the hands

\* The exportation of grain is now prohibited.



of the English. However, it declined rapidly after the general peace took place in Europe, and now is almost reduced to nothing, for which the following reasons have been given :—

The late Emperor Muley Soliman prohibited the exportation of oil, wheat, and wool, which impoverished his subjects, who could not afford to purchase European goods to the same extent they did previous to such prohibition, nor can they indeed pay a high price for the small quantities they now purchase.

2d. During the latter part of his reign, one of his nephews usurped the sovereign power, and ruled for about a year over Fez, and its provinces, where he committed great excesses, exacting large sums of money from the merchants and manufacturers, which much reduced the great means which that city, the principal manufacture of silk, &c. &c. of the whole country, formerly possessed ; half of the manufacturers are unable to proceed with their former industry. And the different civil wars and commotions which took place from the death of Muley Soliman to the period at which the present emperor was recognised by the empire, moreover, greatly injured commerce and industry in general.

3d. The various settlements of Senegal now hold a great share of the trade formerly carried on between that part of Africa and Mogador, the different commodities being from thence conveyed to this by caravans, and sundry European articles taken in exchange.

4th. Four or five years' scarcity, and particularly the year 1825, when there was a total failure of crops, and vast quantities of wheat and barley imported from Europe to all the different ports of this country, have drawn from the dominions immense sums of specie, and ultimately the inhabitants were obliged to sell their silver ornaments and trinkets, in order to be able to satisfy their immediate wants. Their resources were completely exhausted, and a stagnation of trade ensued.

5th. The produce of this country has been for these last six or seven years so low in all parts of Europe, and so little demand for it, that there are instances when it did not cover its original costs by from twenty to thirty per cent.

6th. The French revolution, and the plague in 1800, caused the departure of many merchants, particularly French. The different useful and respectable institutions, the great influence of the European mercantile community diminished, and at last ceased to exist ; and, after the death of the firm and enlightened Mohamed-Ben-Abdallah, the friend of Christians, the Jews, by dint of intrigues and bribes, were put on the same footing as the Europeans, which hitherto they had not been.

By their united and unremitting efforts, they have now so far aggravated the effect of the causes of the decay of the Mogador trade, that the Junta of Commerce consists of nine Jews, and the house of Renshaw and Wiltshire.



7th. The ports which Sidi-Mohamed directed to be shut were, during the succeeding turbulent reigns, at different periods, opened again; and, whenever the maritime provinces were in a state of revolt, they in that respect consulted their own advantages and conveniences. At present there is a constant trade between Rabat and Gibraltar. Portuguese and Genoese vessels repair to the former; and I understand, from a man who lately arrived here from thence, that a French vessel had been there. So that not only the northern provinces are supplied from that quarter, but, to the great prejudice of this town, the reputed principal port of Barbary. Independent of these reasons, there is also assigned, among others which are certainly correct, one that to me appears doubtful, although several of the travelling native merchants affirm it as being true, namely, the formation of two Christian factories along the coast, apparently to the southward of Cape Nun. The merchants, in describing them, enter into many minute particulars, as to treaties, articles of barter, &c.; they state, also, that at one factory a building was erected from materials brought out in a ship, and was constantly occupied, but that the other was deserted during the bad season.

It is probable that one, or perhaps both, of these factories, if they do exist, may emanate from the Canaries, an idea which I am induced to form from the jealousy which I know among these islanders to exist, as to the object of our expedition, which renders them to me totally inaccessible, (the fishermen,) as to any information on the subject of the prevalent winds, &c. along the coast.

Should these factories or settlements be, however, formed from the islands, I scarcely hesitate to say that they are nothing more than for the accommodation of the fishery, especially as some of the Meors affirm that one of these is in the Bay of Arguin, called by the natives Agadeera Douma.

The present Emperor Mulai-Abderahman-Ben-Isheme, who was formerly governor of Mogador, appears anxious to devise expedients to revive its drooping commerce, which at one period was one of the greatest sources of the revenue of the country; but he is now constantly engaged in suppressing the revolts of his turbulent subjects, and, at the time of our visit, was involved in a dangerous war with a saint. This person, backed by two or three provinces, has fortified his sanctuary in the vicinity of Mequinez, and sets at defiance the power of his sovereign; who is so indignant at it, that he is determined to crush him, or, as he affirms, perish in the attempt. As an instance of the inveteracy of his feeling towards this saint, the emperor, in his letter declaring hostility against him, tells him, that "he considers it would be an act more acceptable to the Almighty to take away his life than even that of a Christian!"

Mogador is divided into two towns, separated by a wall, the



communication through which is closed every evening at 8 o'clock, as is also the sea-port, and none allowed to pass. These are opened at daylight every morning, as indeed are all other gates of the town. In one of these towns the Moors reside; in the other the Jews, who amount in number to about 4,000, about one half of the whole population of Morocco. These unhappy people are kept in the vilest subjection, are plundered with impunity by the Government, and even must patiently submit to the blows and insults of the humblest Moor, unless they have money wherewith to purchase satisfaction. To strike in return is death, and to pass a mosque without taking off their slippers, is an offence which is visited almost instantaneously by a severe bastinado, unless the culprit can buy himself off, or, by the sacrifice of a heavy sum, have gained permission to adopt the European costume, which places him immediately above such degrading distinctions, and almost on a par with Christians. Yet, badly as these unhappy people are treated, they ill deserve commiseration; for their insolence and domineering spirit, when the power is on their side, is great in the extreme; and their infamous acts of dishonesty are such, that every one should be cautioned against them, as they might otherwise be deceived by their plausible manner.

Mogador is defended by batteries built by Genoese engineers; but they are apparently of weak construction, and, although surrounded by heavy artillery, yet, as the carriages of these are very bad, and the Moors ridiculously deficient in their management of them, all their efforts would avail nothing when opposed to two well-conducted frigates. The houses, from having no windows in the outer walls, present a sombre and gloomy aspect, which, in some cases, is, however, partly relieved by being whitewashed, as the summit and inside always are. They are often of considerable size, and are constructed with an open court in the middle, surrounded by a gallery, into which the long and narrow rooms open. The roofs are flat, and are formed of a composition of lime and small stones, which, when well beaten down, and otherwise properly done, will last many years. It is necessary to observe here, that these flat, and oftentimes communicating roofs, afford great facility of defending the place against an enemy who enters the streets, as has already been proved by experience.

The duties at Mogador are fixed, and not heavy; and, as the Government has always adopted the policy there of giving every encouragement to trade; so, the governors cannot practise imposition upon foreign merchants, without the certainty of severe measures being taken with them, if a complaint is made, nor dare they allow the slightest insult to be offered by the mob, without punishing them for it. Mogador exists entirely by its trade, and has no other resources within itself; even water is obliged to be brought on camels' backs from two miles inland, at a considerable



expense ; for, although there is a large tank under one of the forts, yet that is only used in cases of emergency. A market is held every morning, immediately outside of the gate, and the price of beef for that day is carefully arranged by an officer appointed for that purpose, who pastes up notices of it in the most conspicuous places. Every article is particularly cheap, especially partridges, of the beautiful red-legged species, with which the country swarms to a most extraordinary degree. They are generally taken by the Moors, who assemble in large parties, and, as a covey rises, hurl their short stout sticks among them, and thus bring down numbers at a time.

The commerce garden is situated in a romantic and picturesque glen, through which, at about three miles inland, the stream takes its course which supplies Mogador with water. It was granted by one of the emperors for the use of foreign merchants, who, for many years after, were accustomed, during the prosperous times of Mogador, to resort there, and enjoy one another's society. But now the garden has gone much to ruin and the house in it, which used formerly to be the scene of so much festivity, is now roofless, and fast crumbling down.

In approaching Mogador from seaward, you can never mistake it, for the mass of the iron mountains are too remarkable not to be identified ; inasmuch as you will see no high land to the northward of them, and their southern mountain is surmounted, as already noticed, by a tomb, discernible almost as far off as the mountain itself. You will observe, also, the lofty mountains of the Atlas range, which lie at the back, and to the southward of Mogador, terminating after at least four perceptible ridges, in the celebrated peak of Atlas itself—capped with snow, resembling a saddle on its summit, and generally to be discerned from the roadstead outside on a clear morning, or from the tops of the houses of Mogador ; from the southern part of which it bears S. 44° 45' E. (true.)

Independent of these, there is also the general sandy sterile appearance of Mogador and its vicinity, which elsewhere does not exist. To a stranger, the port of Mogador would appear to be perfectly safe, yet fatal experience has proved to the contrary ; for, during the time it was much resorted to by shipping, scarcely a winter passed without one vessel at least being wrecked in it.

The stormy period is considered to be worse during the season of Liati, which lasts from the 8th of December to the 20th of January. This assertion, however, does not give the navigator sufficient warning, for no period of bad weather can be confined within such narrow limits. The season of Liati may certainly, from experience, be termed the worst in the year, but very bad and dangerous weather also prevails at times from about the latter end of October until March or April, when the westerly winds prevail much, at least outside, and increase the swell, that bane to the north-west coast of Africa. Of the effects of this latter, the following instance is illustrative, and may be of service :—

On the 9th day of September, 1822, there set in on a sudden, as is often the case, a very heavy swell which topped at the entrance of the port, and at times broke furiously towards the shoal patches. A merchant-vessel was just entering at the time, and was becalmed ; her danger was imminent, she rolled about



in a most violent manner, and every one expected that she either would capsize, and sink, or be cast on the rocks, and all on board perish. At this crisis, however, a daring effort was made by two Moorish boats, hired by Mr. Wiltshire, and various others belonging to the English merchantmen, to save her. They succeeded in getting her warped into a safe anchorage; but, in effecting this, nine men unhappily perished by the capsizing of the boats, of which four were lost. One of these last was a long and handsome gig belonging to Mr. Moresby, master of the brig *Tods*, of Gibraltar. She was just approaching the distressed vessel, when a sudden sea hove her almost on her beam-ends, and her mainyard, taking the boat amidships, cut her in two, and caused the loss of most of the men in her.

The swell which could lead to such effects as these, during a calm, would do much more when acted upon by the wind. So that the port of Mogador which might be considered safe, as far as regards the former, is rendered quite the contrary by the united effects of both. The gale commences from the south-west, the sea and swell follow; and to these, as they enter through the southern channel, the shipping close under the island ride well enough; but, ere long, the wind veers round to the north-west, and, throwing in its sea and swell through the northern channel, occasions a perfect chaos within. The seas meet at the back of the island, and the shipping are buffeted about by one and the other, forging ahead at one time by a sea which poops them, and then immediately thrown back with a jerk on her cable, by one that rushes in over their bows.

The Boutof sand-hills gradually approach the coast to the southward of Mogador Island, and terminate at seven miles' distance in Cape Sem, or Teyent, about one mile, or a little more, to the northward of which, and at the same distance off shore, is a danger, consisting of a rocky ledge, on which, if the swell is at all heavy, there is a furious break.

There appears to be deeper water inside of this ledge, but I did not stop to examine it, as there was much sea at the time, and it would be better to connect it at a future period with the survey of the port of Mogador. Two miles and a half off shore, or one outside of this ledge, you have sixteen fathoms, sand and rocky bottom; and, in doubling the cape, at the same distance you have fourteen.

The port is formed by the projecting land on which the tower is built, and a small island, about two-thirds of a mile in length, to the southward. The passage between the rocks which project off the town, and this islet, is half a mile broad, and has four or more fathoms on it. A large but shallow bay then opens out, and inside in this, close to the island, the vessels ride, there being sufficient depth in the heaviest weather for those vessels that draw twelve feet. There is no sharp point formed by the main land to the southward, as that of the town does to the northward, and therefore the channel is considerably broader and more generally used. The roadstead outside is only tenable during the summer season, and even then, such is the general strength of the north-east trade which blows, and the heavy swell that is constantly rolling in upon the coast, that no vessels bring up there that can possibly avoid it. The depth also is inconvenient, there being twenty-three fathoms within one mile of the shore; and the bottom in some spots, especially abreast of the island, is rocky, and consequently bad for anchorage. As an instance, the *Albatross*, tender to H.M. sloop *Hecla*, lost two anchors there, each of which hooked a rock, when the cable was up and down, and broke. On account of the prevailing and very strong north-east winds, and corresponding currents, you should approach Mogador from the northward, or at least abreast of it, from whence you may fetch in with ease.



At eighteen miles off, you first strike soundings in 100 fathoms, sand, which gradually decreases, sometimes on a rocky, but generally muddy bottom, into ten fathoms, close to the town. If you bring up in the roadstead outside, anchor as near abreast of the northern channel as you can; for the strong north-east wind, and attendant sea, which sometimes preclude the possibility of communication with the shore, would, with the assistance of the current and swell, occasion the same much oftener, were a vessel to anchor in that northerly direction, from whence the difficulties proceed, excepting the last, which is direct in. To anchor off the northern channel is best, because the prevalent winds will always admit of your running down to the other; and, again, should a boat miss fetching you, she can always bear up, and take refuge in the southern channel. Steer in, mid-way through either channel you adopt, and then, if you are obliged to beat up to the anchorage inside, the gradual nature of the bottom will warn you when to tack.

The communication with the town is particularly dangerous to a stranger, and often by the weather is altogether stopped. In passing through the channel, between the rocks of the town and the island, you should avoid approaching too near to the former, as a reef extends off, whereon the sea breaks at times much farther out than at others. Having passed these, you must steer right towards the depth of the bay, keeping the left hand object on shore considerably on your larboard bow; and this you must do until you see a little pinnacled rock through the largest arch of a bridge, which connects the fort under which you enter the town to a long battery on the left approach. Steer towards this arch, taking care to keep the first break you approach close to your left, when soon you will pass between that and one on your right, after which the channel becomes too apparent to be mistaken.

There is also another channel outside of this, which I consider at all times in some degree dangerous, although, to save distance, it is often used by those who are well acquainted with it.

### III.—SUBSTITUTE FOR DEAD-EYES AND LANIARDS OF LOWER RIGGING.

SIR,—The safety of ships, and their crews, must at all times depend so much on the masts, that any means which can be devised for their better security from the dangers to which they are inevitably exposed from the stress of weather, or the effects of shot in action, is well worthy of attention. The shrouds and stays are adapted for their support, and it is desirable to have the most perfect control over these at all times. A severe gale of wind will stretch new rigging so much as to endanger the masts, and it was the observation of this circumstance that suggested the idea of substituting the simple screw for dead-eyes, laniards, and tackles.

In 1825, I submitted a model of my plan to Captain the Hon. J. A. Maude, then commanding the Glasgow, in which ship I was serving as master. After a strict examination of its merits, Captain Maude was pleased to approve of it, and recommended a trial of the plan to Sir Byam Martin; but the Glasgow being ordered to sea, it was laid aside.

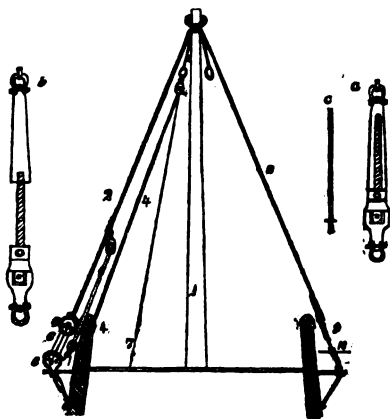


In 1831, the *Glasgow* being ordered to the Mediterranean, I obtained a screw from Messrs. Maudsley, and Captain Burdett allowed it to be attached to the foremast shroud of her main rigging, of twelve-inch rope, the largest size in His Majesty's navy. It remained there ten months; and, although with no other covering than tarred-parcelling, not the least rust was on it, one of the sources of objection against it. The same screw, with three others, is now in the *Malabar*, in order to admit of pointing the quarter-deck gun. Regarding the expense of them, I am unable to make any statement, except, that the workmanship of those supplied was much too good for such a purpose. For merchant-ships, especially when lying in tiers, or alongside wharfs, the screw and long link would be most desirable.

I am thus particular in stating the trials which this invention has already undergone, and in recommending, both for the use of the navy and the merchant-service, what I think will prove of essential importance. I am cautious of all innovation; but, as a master in the navy has at one time or other to encounter most of the details of the service, in the course of thirty-four years' active duty, nineteen of which I have been a master, I have had ample opportunities for observation; I was bred a seaman, and, although one of the many thousand victims of impressment, am glad of the opportunity afforded by your useful work of offering to my brother-seamen of the results of my experience. I will now describe its form and services, and in what its superiority consists.

#### *References.*

- 1 Main Mast.
- 2 Main Shroud—Starboard.
- 3 Masthead pendant.
- 4 Main-tackle on the luff.
- 5 Luff-tackle on the laniard.
- 6 Dead - eyes and laniard.
- 7 Main-tackle fall for thirty men.
- 8 Main shroud—larboard.
- 9 Screw attached.
- 10 Lever for setting up by three men.
- a Represents the appearance of the socket, and its screw, when quite closed up. It is made in three separate pieces, the socket being cylindrical, that a shot striking may be thrown





off. The screw should be 2 ft. 4 in. long, to allow of three settings up. The lower collar should also be cylindrical, on account of shot; and, should either part be injured, then the others will still be available.

- b* Shews the appearance of the socket and screw when ready to begin work. It may be supposed as fitted and in its place, ready to set up with when in this position. The shackle, with its thimble for the shroud, is bolted at *b* to the socket. At the lower end of the screw is the hole for the lever, (three feet long,) below which is the collar of the case, with the nut of the screw bearing against it. At the lower end of the socket a shackle is bolted, to secure it to the chain plate.

The length of the mast in the figure is assumed as fifty feet from the deck to the eyes of the rigging.

The whole length of the *a*, representing the socket, with the screw entirely enclosed in it, is four feet and a half, from the outside of the lower shackle to the upper part of the thimble.

The upper part, which shackles to the shroud, and receives the screw, is cylindrical, so to turn off shot, the largest of which only can injure it. The screw ought to be two feet four inches long, to admit of three settings up; when close, the end of the shroud can be taken up in ten minutes, and two feet of the screw taken again. The lower part is round also, for the above reason.

When fitting, especially in winter, one half-hour's fine weather will be ample opportunity for setting up the whole of the standing rigging, two men to a shroud being sufficient; and if that number be put to each, five minutes is enough for the whole.

At sea, in the worst of weather, one man to each will be certain of taking them all up alike, and they may also secure them at the same time. To do such a service in a gale, the difficulty of doing it in the usual way is well known. If the swifter be employed, the angle of support is destroyed.

When in action, an enemy's shot, unless of the larger calibre, will not injure them; but a bullet will destroy a laniard, and so does the fire from a ship's own guns, if ever so little pointed, either on quarter-deck or fore-castle; nor will all the covering of mats, hides, swabs, &c., preserve them. Now, in most ships, if you have to fire more than twelve rounds before or abaft the beam, you shoot away your own rigging; but if it be set up with a screw, as I have suggested, it will admit of all the shrouds being placed at equal distances, and if any one falls in the direct line of fire, (and not otherwise,) it can be unshackled in a moment, and as soon replaced. And, should a shot cut the shroud when stoppered, the men stationed to that service can set it up without more being taken from their quarters to get up tackles.



I am not singular in the opinion, that it is absolutely necessary some other method for setting up rigging should be substituted for that used now; for the French have already adopted a plan of their own, and the Americans have used the screw, but differently arranged from my method. Surely the example of two such nations should be sufficient for us, and I know of no way so likely to make it known as through your truly meritorious work.

JAMES PEARCE, Master.

17, *Edgecumbe St., Stonehouse, Oct. 1834.*

#### IV.—NEW METHOD OF FITTING LOWER RIGGING, PROPOSED BY COMMANDER H. DOWNES, R.N.

*To the Editor of the Nautical Magazine.*

U. S. Museum,\* 17th Dec. 1834.

SIR,—I beg to send you a new method of fitting lower rigging; should you deem it worthy of space in the *Nautical Magazine*, I should feel obliged by your insertion of it.

The idea struck me two or three years ago, and I have since submitted it to several naval men of judgment and experience, who approve of the plan, and recommend me to transmit it to you, to be laid before your numerous readers.

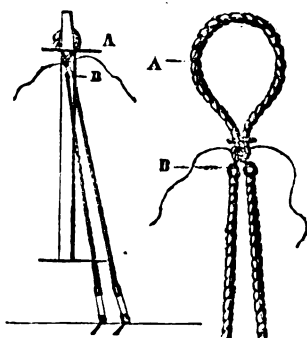
The plan proposed is an expeditious mode of fitting or shifting lower shrouds, without lifting the lower rigging, and will be completely understood by reference to the diagram.

A A—Strops, of the same sized rope as the shrouds, or, of chain, if thought better.

B B—Ends of shrouds, with thimbles spliced in, to secure to the strop by a *seizing*, so passed as to allow the thimbles to lie with their edges outwards; thus, less an “*eye-sore*.” Shrouds to be set up in the usual way, with dead eyes and laniards.

C C—Strops, same as over the other masthead.

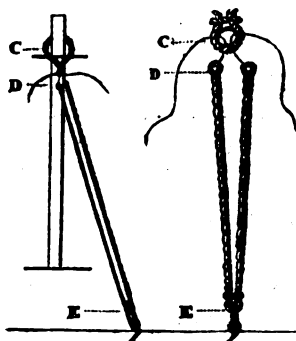
DD—Ends of shrouds, ditto.



\* The model may be seen at this institution.



E E—Shew another plan for a pair of shrouds, with the dead-eye seized in the bight below; the seizing to be passed with *racking* turns, so as to hold in case of one shroud being shot away. If this plan were to answer, half the usual number of dead-eyes, laniards, &c., would be done away with, and thus enable the carronades to have greater scope in action. The dead-eyes, iron plates of ditto, and laniards, would in this case require to be stouter.



[A seizing should have been placed above both the upper dead-eyes in the sketch.]

The latter method was suggested to me, on seeing my plan, by a captain in the navy, who has been an old first-lieutenant.

During peace time it is of less consequence than in war, and when a shroud is carried away or stranded, there is usually plenty of leisure-time to knot or splice it for service, till the ship returns into port.

It is therefore in time of war, especially during or after an action, that I cannot but think the adoption of the plan would be attended with the highest advantage: one or two pair might be always kept fitted for such emergencies, (to go with a *shackle* or *double hook*, in lieu of a seizing;) these, in going into action, might be laid handy at the mouth of the hatchway, in the cable tier, and, if required, ran up into their places in a few minutes, and would ship prove just as efficient as the former ones.

The loss of a mast, for the want of timely support, might not only be the loss of the action, but turn the chances against the ship that had previously the best of the day.

I think the *first and second pairs of a side*, fitted on this plan, would be sufficient; the strops may be either of rope or chain, I should give the preference to the former.

HENRY DOWNES, Commander, R.N.

## V.—MARINE INSURANCE.

To the Editor of the Nautical Magazine.

SIR,—I cannot but consider “Vindex,” in your last number, as particularly unjust in his reply to an article that appeared in one of your former numbers, on marine insurance.

NO. 36.—VOL. IV.

M



If I recollect right, the remedy to the evil proposed was not doing away with insurance, but establishing a court of inquiry on vessels lost or wrecked, in some respects similar to court-martials.

"Vindex" argues, that all mercantile losses are to be attributed to the severity of the weather. Now, sir, I happened to be in Yarmouth harbour after the gale in August, 1833, when the number of vessels lost and cast ashore on the Norfolk coast was truly awful. The pilot informed me that six brigs had left that port, and never since been heard of; and he added, "How, sir, can we be surprised, when vessels are sent to sea with only five hands on board, and not one older than nineteen."

This I believe to be one of the numerous cases of evil arising from insurance. But the remedy should not be in abolishing so advantageous an institution as the marine insurance office, but by subjecting to a court of inquiry the recovery of the value of all losses. The question is, whether the certainty of recovering his property does not frequently make the owner indifferent to the risk of the lives of his servants; and if that be the case, does it not become the duty of some other power to step in, and find a legal substitute for his humanity?

If you consider the above worthy of notice, you will perhaps honour it with a place in your next number.

I have the honour to be, Sir,

A CONSTANT READER.

## VI.—THE MEDUSÆ OF THE OCEAN.

*To the Editor of the Nautical Magazine.*

22d December, 1834.

SIR,—While perusing the interesting article of "Investigator" on the Medusæ of the ocean, in the supplement to your very useful publication, it recalled to my recollection an observation connected with this singular class of zoophytes, which we made while employed in surveying in the North sea, a few miles eastward of the Hinder Bank, in the latter part of July, and beginning of August, of the present year.

The sea at this time was particularly calm, and near its surface floated past us, in countless numbers, these beautiful and interesting creatures. Their true consistency, the pink or purple-fringing of their disks and ornamented poles, with the delicate rainbow tints which they exhibited while under peculiar lights, excited our unbounded admiration. Fancy led me to consider them as so many balloons floating with the ocean's tide, and having in their recesses some puny race of fishes. And, upon examination, they were found to be indeed tenanted, each with about half a dozen



fish of about an inch and a half long, which made their exit or their entrance into and from their living dwelling, sporting around it at some distance, perhaps in search of food, never, however, venturing far beyond. We caught one of these singular animals, and took these small fish from its several cavities; but I cannot say of what species they were. Our observation did not depend on this specimen alone, but nearly all of them, as they floated by, seemed tenanted by its own little family.

I have read no work on the medusæ, nor am I naturalist enough to presume to offer an opinion; but I could not avoid conceiving the notion, that the all-provident Being *might* have in part ordained these extraordinary creatures as asylums for the young and helpless fry, in which they might find some security against their numerous and voracious enemies.

If you think the facts here stated may prove novel to some of your readers, as they did indeed to us, they are greatly at your service.

I remain, sir, your obedient servant,  
GEO. AUGUSTUS BEDFORD.  
H.M.S. Fairy.

The peduncle in several of the large specimens was much longer, and the enlargement towards its base more abrupt and angular, than what is represented in No. 16 in the plate.

## VII.—TERRESTRIAL REFRACTION IN THE ST. LAWRENCE.

On Tuesday, the 19th of June, 1832, at 10 h. 30 m. A.M., the following extraordinary effects of terrestrial refraction, or mirage, with triple images, were observed:—His Majesty's hired surveying vessel *Gulnare* being then off Point Des Monts, in the river St. Lawrence, which bore N. 61° E., seven miles; the vessel being then hove to, the machine for bringing up sea-water for examination, from different depths, was repeatedly sent down, and the temperatures and specific gravities carefully and repeatedly tried by the surgeon, Dr. W. Kelly.

Temperature of the air . . . .	49	Fahrenheit.	
Dew-point of Daniel's Hygrometer	44	.....	
Temperature of the sea at the surface			
by one thermometer . . . .	44	.....	Specific Gravity examined at 50° Fahr.
By another . . . .	43	.....	1·01892
At 10 fathoms below . . . .	37½	.....	1·02322
.. 20 .....	39	.....	1·02462
.. 47 .....	33	.....	1·02622
.. 104 .....	36	.....	1·02752



The increase of temperature at the greatest depth may be owing to the nearness of the bottom, from which the machine could not have been many fathoms distant.

At the time of making the above observations, we had a very light breeze from the westward, with partially cloudy weather.

To the southward of us, there were twelve or fourteen sail of merchant-vessels, at the estimated distance of six or seven miles, and beyond them the south coast near Cape Chat. This land is bold and high, with mountains which attain an elevation of several thousand feet a few miles from the sea. It was not in the least disturbed by mirage, except for a short time in the lower part of the coast to the eastward. The vessels were all affected by mirage, or terrestrial refraction, in the most distinct manner, presenting triple images for the first time noticed by us in the St. Lawrence.

First, there was the vessel herself, with her hull occasionally raised, so as to shew it distinctly above the horizon, although the height of our eyes was not over eleven feet. Her sails *appeared* elongated laterally, but were perhaps only shortened vertically, which made them appear so elongated.

Over the vessel appeared her inverted image, the upper sails joining. This inverted image was at times so perfectly distinct, that we could distinguish the colour of the paint on the vessel's sides more plainly by it than by the vessel herself. It was precisely like the appearance of a vessel seen through an inverting telescope, excepting that it was distorted like the vessel herself, by being shortened vertically.

Above the inverted image, but touching it, was a well-defined white line, which shewed plainly, in consequence of the dark land beyond. This line was evidently the reflected horizon, for the inverted image of the vessel appeared as if hanging from it.

Above the inverted image was another of the vessel, in her natural position, distinct; but, like the others, much shortened vertically. This third image, and the inverted one, appeared placed keel to keel, or, more correctly speaking, as if each had been cut off at the water-line, and then the vessels placed together, the white line forming the only separation between them.

As the white line rose or fell, which it did continually, so the inverted image rose and fell also; and the vessel herself became elongated or shortened vertically in the same proportion, the connection between their upper sails being always continued, sometimes nearly touching, at others overlapping. With reference to the phenomena first described, the following observations may be useful:—The preceding observations shew that the temperature of the surface-water, and dew-point of the air, were the same, or, if there were any difference, it was that the former was lowest. When the low temperature of the sea, at ten fathoms, and the varying temperature at different depths, are considered, it will not



appear an improbable supposition, that the temperature of the surface might not be uniform. It might not only be different at those vessels from what it was with us, but it might vary at intermediate distances between us; for it was an usual occurrence, that the temperature of the surface-water changed irregularly, as we sailed towards, or from the shore; thus, shewing that veins of water at different temperatures frequently occur. It is also not improbable, considering the light, unstable, and partial wind which prevailed, that the temperature of the air and dew-point might be different at those vessels, or at intermediate points between them and us, from what we observed it to be on board the *Gulnare*: and this will appear more probable, when I add, that it was nearly calm with them; that flying showers of rain soon after occurred, in various directions; and that the relative temperatures of the air, dew-point, and surface-water, were found to be changeable during the day. Thus, at 3 h. 30 m. P.M. the air was  $49^{\circ}$ , the dew-point  $45^{\circ}$ , and the surface-water  $42^{\circ}$  Fahrenheit.

H. W. BAYFIELD.

We annex the following account of similar phenomena witnessed by a friend, while travelling in Mexico:—

*To the Editor of the Nautical Magazine.*

Brompton, 25th March, 1833.

Dear Sir,—I send you a short account of the mirage of which I was an eye-witness, on the plains of Mexico. It is an extract from some rough notes made at the time, and, should you deem it worthy of insertion in your very useful magazine, it is at your service.

Yours,

A. INDERWICK.

October, 1824.—On our road up to Mexico, from Vera Cruz, we left Perote at half-past six A.M., at which time the thermometer was at  $43^{\circ}$ , and the country enveloped in a thick haze. After a short ride, this cleared off, and shewed to our view the mountains of Perote and Orizaba on our left, and Malincha right a-head of us. We had soon after a sight of the mountains of Popocateptl and Iztacuatptl, covered with snow as low down as we could see. A dense fog, however, came on some time afterwards, by which we were separated from part of our company, including the escort; and, after traversing for some time a wild flat country, with here and there a ruined Hacienda, we came to a plain, about fifteen miles in extent, undermined in most parts to such a degree, that our horses frequently sunk in up to the girths: the soil was of a dark-grey sandy appearance, with very few traces of vegetation. The fog had disappeared some time since, and the weather being clear, we saw, to all appearance, a large lake at a little dis-



tance, to which we instantly directed our course, and it was with difficulty we could bring ourselves to believe it was receding before us, never having heard of the mirage in this quarter. On looking back, however, we were astonished at the same appearance of a sheet of still water, reflecting trees and the dwelling-houses of the country, on a part of the plain we had just crossed, and where no such objects in reality existed. This illusion continued until we left the plain. My two companions witnessed exactly the same appearance as myself; and we were much surprised, on joining the rest of our party in the evening, to find, that by taking a more direct route, they had lost the sight of this very beautiful phenomenon.

The following extract is also interesting :—

An extract from "Travels in Turkey, Egypt, Nubia, and Palestine, in 1824-5-6 and 1827, by R. R. Madden, Esq., M.R.C.S."

"With all my endeavours to resist the delusion of the mirage, I found it quite impossible this day to persuade myself that my senses did not deceive me. At one moment, the rippled surface of a lake was before my eyes; at another time, a thick plantation appeared on either side of me; the waving of the branches was to be seen, and their view was only changed for that of a distant glimpse of a city; the mosques and minarets were distinct, and several times I asked my Bedouins if that were not Suez before us; but they laughed at me, and said it was all sand; and what appeared to me a city, a forest, or a lake, the nearer I endeavoured to approach it, the farther it seemed to recede, till at last it vanished altogether, 'like the baseless fabric of a vision, leaving not a wreck behind.'

"If I were to speak of the nature of the mirage from my own sensations, I should say, it was more a mental hallucination than a deception of the sight; for, although I was aware of the existence of the mirage, I could not prevail on myself to believe that the images which were painted on my retina were only reflected, like those in a dream, from the imagination, and yet so it was."

Mem.—Mr. Madden seems almost to intimate that his attendants did not observe the mirage, whereas in my case my two fellow-travellers observed the same appearance as myself.

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TABLE XI.

*For reducing Hamburgh feet to English, and English to Hamburgh.*

1 Hamburgh foot = 0·9580064 English foot.

1 English foot = 1·0438344 Hamburgh foot.

Hambro' or English Ft.	English Feet and Dec. parts.	Hamburgh Feet and Dec. parts.	Hambro' or English Ft.	English Feet and Dec. parts.	Hamburgh Feet and Dec. parts.	Hambro' or English Ft.	English Feet and Dec. parts.	Hamburgh Feet and Dec. parts.
1	0·958	1·044	38	36·404	39·666	75	71·850	78·288
2	1·916	2·088	39	37·362	40·710	76	72·808	79·331
3	2·874	3·132	40	38·320	41·753	77	73·766	80·375
4	3·832	4·175	41	39·278	42·797	78	74·724	81·419
5	4·790	5·219	42	40·236	43·841	79	75·683	82·463
6	5·748	6·263	43	41·194	44·885	80	76·641	83·507
7	6·706	7·307	44	42·152	45·929	81	77·599	84·551
8	7·664	8·351	45	43·110	46·973	82	78·557	85·594
9	8·622	9·395	46	44·068	48·016	83	79·515	86·638
10	9·580	10·438	47	45·026	49·060	84	80·473	87·682
11	10·538	11·482	48	45·984	50·104	85	81·431	88·726
12	11·496	12·526	49	46·942	51·148	86	82·389	89·770
13	12·454	13·570	50	47·900	52·192	87	83·347	90·814
14	13·412	14·614	51	48·858	53·236	88	84·305	91·857
15	14·370	15·658	52	49·816	54·279	89	85·263	92·901
16	15·328	16·701	53	50·774	55·323	90	86·221	93·945
17	16·286	17·745	54	51·732	56·367	91	87·179	94·989
18	17·244	18·789	55	52·690	57·411	92	88·137	96·033
19	18·202	19·833	56	53·648	58·455	93	89·095	97·077
20	19·160	20·877	57	54·606	59·499	94	90·053	98·120
21	20·118	21·921	58	55·564	60·542	95	91·011	99·164
22	21·076	22·964	59	56·522	61·586	96	91·969	100·208
23	22·034	24·008	60	57·480	62·630	97	92·927	101·252
24	22·992	25·052	61	58·438	63·674	98	93·885	102·296
25	23·950	26·096	62	59·396	64·718	99	94·843	103·340
26	24·908	27·140	63	60·354	65·762	100	95·801	104·383
27	25·866	28·184	64	61·312	66·805	200	191·601	208·767
28	26·824	29·227	65	62·270	67·849	300	287·402	313·150
29	27·782	30·271	66	63·228	68·893	400	383·203	417·534
30	28·740	31·315	67	64·186	69·937	500	479·003	521·917
31	29·698	32·359	68	65·144	70·981	600	574·804	626·301
32	30·656	33·403	69	66·102	72·025	700	670·604	730·684
33	31·614	34·447	70	67·060	73·068	800	766·405	835·067
34	32·572	35·490	71	68·018	74·112	900	862·206	939·451
35	33·530	36·534	72	68·976	75·156	1000	958·006	1043·834
36	34·488	37·578	73	69·934	76·200	2000	1916·013	2087·669
37	35·446	38·622	74	70·892	77·244	3000	2874·019	3131·503



## MISCELLANEOUS INTELLIGENCE

### NEW BOOKS.

**NARRATIVE OF THE VOYAGE OF HIS MAJESTY'S SLOOP CHANTICLEER TO THE SOUTH ATLANTIC, from the Journal of W. H. B. Webster, Surgeon of the ship. Bentley.**

WE inserted in our last number a brief notice of this interesting work ; it now remains for us to fulfil the promise made to our readers, of giving some extracts from its highly instructive and intelligent pages.

We shall begin with a passage from the account of Captain Foster's proceedings on reaching Monte Video, where it was his intention to commence the series of pendulum experiments, the accomplishment of which formed the principal object of this important voyage.

"Immediately after our arrival, Captain Foster waited on the Consul, to request that he would point out some convenient spot for the reception of the instruments which were to employ the time of our stay in Monte Video. Captain Foster was desirous of fixing them under the mount, but war was going forward ; and, finding that the Brazilians were then closely besieged by the Monteneros, and that we might frequently be annoyed by their visits, or inconvenienced by the suspicion of favouring the Brazilian party, it was decided that the observations should be made on Rat Island. The Chanticleer was accordingly got under way, and moored as near as possible to the island, for the convenience of landing the tents and instruments. This being the first place of our actually commencing the pendulum experiments, all was novelty and excitement ; a serious difficulty, however, arose from the island being very small, and having a number of guns for its protection, as well as from its containing the principal magazine in the possession of the Brazilians. In case of an attack, which, by the account of the Governor of the island, was far from improbable, the concussion produced by the discharge of the guns would materially injure the instruments, unless they were speedily moved, and, even as it was, the magnetic operations became totally useless, from the quantity of metal by which we were surrounded. But we had no choice, and in a short time our little village began to be established. A room in the fort was given up to Captain Foster, for the pendulum ; carpenters set to work, and the floor soon displaced, to form a firm basis for the frame of this instrument. The house we carried with us, for the purpose of making observations in when no better could be obtained, was quickly put together, being ingeniously constructed of panels, which, when arranged, formed a room, with eight windows, of about twelve feet square. This was converted pro tempore into a mess-room : the Governor was to join our mess ; the quarters and establishment of officers in that service being very indifferent, at least in the estimation of us Englishmen, and perhaps I might say I have not judged too hastily, from the delight I fancied depicted on the poor man's countenance, when he sat down (for the first time, no doubt) to the substantial fare of an English breakfast. The next point to be attended to was the meridian mark, which was rather a difficult one to be determined, as it was necessary that it should be placed at a distance from the island, on the main land, outside the Brazilian lines. It was also necessary to watch it, not only to prevent its being stolen, but to keep the lamp constantly alight during the observations. Captain Foster dispatched Lieut. Williams with the mark, and instructions to attend certain signals that were determined on, that it



might be placed exactly in the meridian. The gig was accordingly manned, and Lieut. Williams proceeded to perform this duty."

Upon this follows a rather romantic rencontre of Lieut. Williams's with a guacho, furnished by that officer himself; but our limits oblige us to pass over this, and many other interesting incidents, and proceed to give extracts from the details which have a more immediate connection with the objects of this magazine, and that are consequently of more general interest to our readers.

The hurricane called Pampero is said to be announced, and accompanied by the following atmospheric phenomena:—

"The weather is sultry during a few days, with a light breeze from the east or north-east, ending in a calm. A cool light wind then sets in from the south or south-east, but confined entirely to the lower strata of the atmosphere, while the clouds above it are moving in the opposite direction, from north-west to south-east. The northern horizon, as night advances, becomes dark, with heavy lowering clouds, accompanied with lightning from the east or north-east. The southern wind now ceases, and is followed by variable winds from the northward. Heavy clouds are thus brought over, and lightning, accompanied by thunder, follows in a most terrific manner. The wind veers gradually to the westward, in violent gusts; the lightning becomes more vivid, and the thunder more awful: a gale of wind follows from the south-west more violent, but of short duration, and fine weather ensues."

Mr. Webster's description of the town of Monte Video is sufficient, we think, to deter travellers from seeking a personal acquaintance with it; and the following account of one of the vehicles in use there assuredly bears him out in the assertion, that the inhabitants are indeed ages behind civilized countries in the cultivation of those arts which contribute to the comfort of life:—

"The floor, or bottom of the cart, is formed of ponderous misshapen pieces of timber; the carriage pole is also of equally huge and misshapen dimensions. The sides of the carts are formed of rough stakes, lashed to the flooring by thongs of hide; and the wheels are remarkable for two good qualities, viz. size and strength, being about eight feet in height. To this vehicle are attached four, and sometimes six, fine bullocks, in pairs, not yoked, but fastened by a heavy transverse spar resting on the back of their necks, and bearing their heads to the ground. The harness is formed of hide, and this material is also used sometimes for covering the cart."

The Chanticleer being stored with provisions for ten months, sailed from Monte Video on the 5th Oct., and bore away for Staten Island, which they approached within sight of on the 18th. Heavy gales, however, prevented their gaining an anchorage until the 24th, when they obtained a temporary respite from the buffetings of the winds and waves off Deadman's Island, on the north side of Staten Island: and here we cannot but extract the eulogium which Mr. Webster bestows on Frazer's stove, and to recommend it through this medium to general adoption. "It is in weather such as we had just experienced, that the great advantage of Frazer's stove is found. The hatches had been battened down fore and aft; and yet, in this condition, with a most furious sea running, no inconvenience from smoke was found, and our dinners were cooked to perfection. Certainly, Mr. Frazer deserves the blessing of every sailor, for it is in situations where such comforts are most needed that they are most appreciated."

On Sunday the 25th Oct. the Chanticleer, by the assistance of the captain of an American schooner lying at anchor in one of the creeks named North Port Hatchet, was conducted to the same place of shelter, and the objects of the voyage again carried forward with a diligence proportioned to their interest.



"Staten Island is about thirty-four miles in length, from east to west, and its extreme breadth is about nine miles; but in several parts it is nearly intersected by several deep bays. The general direction of these bays, which are very numerous both on the north and south sides of the island, follows that of the hills, which, being divided by valleys, allow the near approach of the sea on the north and south sides. The distance across it, between the opposite shores of two bays, in nearly the middle of the island, is not more than 900 feet. The whole island thus assumes a most irregular shape, having a bold iron-bound coast, and rocky points projecting into the sea. It is separated from the southern extremity of America, the famous *Tierra del Fuego*, by the straits of *Le Maire*, in which a dangerous tide-rip generally runs; and this is also found on the shore of the island in many parts, rendering its approach to vessels that are not aware of it both difficult and dangerous."

"The general character of the island is hilly and precipitous; little or no level ground is seen, and nothing but a continuation of lofty hills, separated by narrow ravines, prevails everywhere. We were fortunate, in finding at North Port Hatchet a small portion of level ground, in the neck of land between it and the harbour, on the opposite side of the island. This level is technically called by the sailors the *Haul-over*, and owes its name to their practice of dragging boats across in their sailing avocations. The direction of the various ranges of hills is chiefly south-south-east, and north-north-west, transversely across the island, varying in their heights from 600 to 2200 feet."

From Staten Island the *Chanticleer* departed on the 21st of Dec. for *Tierra del Fuego*, and in this voyage met with the first iceberg which had been seen from its commencement. It being calm, soundings were attempted, but no bottom was found with 900 fathoms of line.

"On the 7th of January," proceeds Mr. Webster, "we were coasting along a tract of land, with a light easterly breeze, to the southward of the Shetland group, and called by the sailors *Trinity Land*. This land had been seen by us for several days, for we had been embayed in it. It appeared to be of considerable extent, with mountains of six or seven thousand feet in altitude running off from the coast, and all of it was covered with eternal snow. Our situation was one of novelty and interest, and produced various speculations among us; some imagining it to be a southern continent, extending to the pole, or a great and continuous tract of land; while others concluded it to be a series of islands belonging to the Shetland group. At any rate, it is the southernmost land known; and in the *Quarterly Review* of 1825 we find the following passage respecting it:—'The land discovered by Dirk Gherritz, of Good News yacht, one of the five Rotterdam ships which doubled Cape Horn in 1659, and which he reported to be in 64° south, was considered to be part of the southern continent; it was marked out in most of the old charts by the name of Gherritz Land, till we expunged it. But this land now figures under the name of South Shetland, to the manifest injustice of the claims of the old Dutch navigators.'

"We were quite exhilarated by the fineness of the day and the scenery around us. Numerous whales were spouting up columns of water, and blowing about us in all directions, making a noise not unlike that of letting off the steam from the boiler of an engine. Flocks of variegated peterels, or pintados, were circling round, and sedulously watching these leviathans of the deep, for the purpose of obtaining some sort of food or aliment from their slimy exuvæ; and penguins innumerable were popping up their heads here and there, skipping and starting out of the water, in the full enjoyment of their gambols. From the deck of the *Chanticleer* we counted eighty-four large icebergs about us."

The scientific purposes of this important voyage appear to have been pur-



sued with the most unwearied diligence by the talented but unfortunate commander; nor can we, while giving the meed of praise to departed worth, forbear to offer our sincere acknowledgments to the historian of these labours, for the highly interesting and important facts which he has himself contributed to the stores of natural history and meteorology. His descriptions of the various and extraordinary scenery presented in these remote and dreary regions, are graphic and forcible in a considerable degree, but his observations on the animal, vegetable, and marine productions display an industry of research, and a zeal for knowledge, that stamp on it a yet deeper and more enduring interest. We might produce innumerable examples of this, but our limits oblige us to content ourselves with one or two which we think will awaken curiosity in our readers to search for others:—

“In the early part of December, the water in the harbour where we were lying was covered with medusæ, and on the following night the most brilliant illumination in the water ensued. In size, these medusæ varied from one to eight inches long, and were bell-shaped, or like a mitred cone, but frequently assuming different figures. From the edges or rim of the cavity a loose flocculent membrane, which very much resembles a delicate gauze net, was spread to catch its prey. On the external convex surface of one of these medusæ, which I examined, were eight longitudinal rows of small imbricated processes, slightly curved, which acted as a series of little flippers, for they had the power of rapid motion, and they appeared like the delicate cogs of a small wheel. On examining this medusæ, I found that when it was desirous of moving itself, several or all of these rows of flippers were put in motion. I became so interested in the organization of the little creature, that I could not help attentively watching it for some time, and it was highly gratifying to see the little fellow propel himself forward rapidly by putting his oars into motion, and as suddenly stop himself when they ceased, and turn himself with ease by working the oars in contrary directions. The motion of his oars imparted to them a succession of the most beautiful colours I ever witnessed. The deep bright emerald green, the beautiful rose colour, gold and crimson, succeed each other in rapid alternation, while it lasted, and riveted the beholder with their no less graceful motion. The moment, however, that this motion ceased, no change of colour was perceptible. I could not help thinking, as I contemplated the elegance of the little creature's shape, its rapid and yet graceful movements, and the beautiful colours which it produced, that it would be a splendid ornament for the drawing-room table; for it is decidedly one of the most beautiful objects in the creation. The skill and wisdom displayed in its structure are admirable; its flippers move like the paddles of a steam-boat, obedient to will; and yet this creature is placed by naturalists in the lowest scale of organized nature, and is regarded as being without a brain, the great organ of volition; but there are “more secrets in nature than are dreamed of in philosophy.”

One cannot but observe that Mr. Webster takes nothing upon trust, that he examines for himself, and is by no means a mere retailer of the opinions of those who may have preceded him, upon subjects which he has had an opportunity of bringing to the test of his own observation. The following remarks on icebergs will exhibit this very important trait in the character of a scientific voyager in the most unquestionable point of view. Speaking of the prevailing belief, that these avalanches of the ocean display but one-seventh part of their height above the water, he remarks—“This conclusion has been formed from experiments in the north, made with solid cubic pieces of ice; but it is one that cannot hold good entirely with icebergs, because they are far from being cubes, and must, in consequence of their varied forms, have much less weight above water, and consequently will not float so deep. Having made some



experiments of this nature, I deduced from them, that in cubic pieces of ice one-seventh part only remained above water. I also placed a cone of ice on a cubic piece, from the same iceberg, and found that the cube easily floated, and sustained the little pyramid, the height of which was more than double the depth of the cube below water. I also floated irregular-shaped masses, and found their heights above the surface to vary considerably; in some it was equal, in others greater, than the depth below it, proving that no inference can be safely drawn as to the depth to which an iceberg extends beneath the surface, with reference to its height above it, and that all depends on its form. In corroboration of this, I may further observe, that while we were in contact with an iceberg off the island, we determined its height, by a reference to the vessel's masts, to be not less than fifty feet. Now, this would have required a depth of not less than three hundred and fifty feet to float it in, according to the conclusion deduced from a cubical piece; but it was floating in ninety-six feet, for we obtained soundings at the same time with sixteen fathoms of line."

With the same decision of language, and promptness of illustration, he combats the long-established opinion, that the regions of the southern hemisphere are much colder than those under the same latitude in the northern. His proofs seem irrefutable, and are very numerous; we can find room but for two, but those appear to us amongst the most decisive:—

"The Fuegian Indians are perfectly naked; they care for no dress, and seldom use it. How is it in the corresponding northern parallels? The Canadian, the North American Indian, the Esquimaux, the Russian, the native of Kamschatka, sufficiently attest by their warm clothing the peculiar severity of their respective climates. Again, vegetation, that unerring index of climate in all parts of the world, proclaims the winter of these southern regions to be mild and temperate. Here, in the latter end of May, (answering to our November,) the face of nature abounded with luxuriance, many of the vegetable tribe were in flower, and every thing wore a cheerful aspect."

The very important remarks on the temperature of the sea in these latitudes, and the comparison of the more powerful effects of cold under the same parallels in the north, we shall reserve for the hydrographic department of a subsequent number of this magazine, merely noticing here, that the extract from the paper laid by Captain King before the Geographical Society, is very decisive and interesting evidence in favour of Mr. Webster's opinions.

On the 17th of April, Good-Friday, the *Chanticleer* was joined by H.M.S. *Adventure*, Captain King, who was engaged in a survey of these islands. This event could not but communicate pleasure to all on board, for, besides the inexpressible delight of meeting with friends and countrymen in a region so remote and dreary, the *Adventure* afforded a fresh supply of provisions, which, from the reduced state of their own stores, was most acceptable. And here, again, Mr. Webster takes occasion to recommend another modern invention for the benefit of navigators, that of "Donkin's preserved meat;" and when we contemplate the destructive effects which a long and uninterrupted use of salt provisions produces on the health of our mariners, it should surely be made a point of duty to supply every vessel destined for such arduous and protracted services, with a competent quantity of these admirable articles of food.

On the 25th the *Chanticleer* bade adieu to the scenery of Cape Horn, and the friendly *Adventure*, and shaped her course towards the Cape of Good Hope. A very interesting notice of the meteorology of the Cape, and the phenomenon of the vapour that is frequently seen on Table Mountain, usually called the Tablecloth, is given, but we have already passed our limits, and must hasten to a conclusion of our remarks.

From the Cape, the *Chanticleer* pursued her course to St. Helena, and the



island of Ascension, between the resources and capabilities of which Mr. Webster has introduced a very important comparison, and proving incontestably the superiority of the first-named island. "Ascension," he remarks, "must only be considered as a port to refit in; it affords no recreation or amusement, nor does it yield any fruits, or the common necessities of life, and a scanty portion only of very bad water." In a word, he describes it to be one of the most abject dependencies on the bounty and resources of Great Britain.

We must not, however, conclude that Ascension Island is altogether destitute of sources of pleasure. To compensate for the sterility of its aspect by day, we are informed "that the night comes on with peculiar charms. Not a cloud is seen to stain the purity of the firmament above, which, as a glassy sea of azure, is studded with its glorious hosts of clustering stars, shining with peculiar lustre. It is in the still, serene hour of night at Ascension, where neither dew nor chilly vapour falls, to check the full enjoyment of it, that groups of its inhabitants are seated in social converse beneath the canopy of heaven, or dwelling on the thoughts of friends far away; of England, home, and love, whose magic spell still holds the captive heart, although on a distant foreign strand.

"One of the most interesting phenomena that the island affords, is that of the rollers; in other words, a heavy swell, producing a high surf, on the leeward shores of the island, occurring without any apparent cause. All is tranquil in the distance, the sea-breeze scarcely ripples the surface of the water, when a high swelling wave is suddenly observed rolling towards the island. At first, it appears to move slowly forward, till at length it breaks on the outer reefs. The swell then increases, wave urges on wave, until it reaches the beach, where it bursts with tremendous fury. The rollers now set in, and augment in violence until they attain a terrific and awful grandeur. A towering sea rolls forward on the island, like a vast ridge of waters, threatening as it were to envelope it; pile on pile succeeds with resistless force, until, meeting with the rushing offset from the shore beneath, they rise like a wall, and are dashed with impetuous fury on the long line of coast. The beach is now mantled over with foam; the mighty waters sweep over the plain, and the very houses at Georgetown are shaken by the fury of the waves."

"The same phenomenon takes place at St. Helena, and Fernando Noronha. The season at which the rollers prevail is from December to April; not but that they do occur at other periods, and have been severely felt in July. Ships at the anchorage are perfectly secure, and they have to apprehend no danger, unless within the immediate influence of breakers. Not only are the seasons of the rollers the same at St. Helena and Ascension, but they are sometimes of simultaneous occurrence. The Chanticleer, while at anchor at St. Helena on the 17th and 18th of January, experienced some very high rollers, in so much that Captain Foster, and his gig's crew, landed with the utmost difficulty. On our subsequent arrival at Ascension, I inspected the meteorological journal of my friend Mr. Mitchell, the surgeon of the island, and found it noted, that the rollers were so violent on the 15th, 16th, and 17th of January, that landing was impossible. Here, then, is a coincidence as to time." Mr. Webster is not disposed to refer these extraordinary agitations of the ocean to the moon or the tides. "It is evident," he remarks, "that these have nothing to do with them. They occur in the most tranquil season of the year, when the south-east trade-wind is often very light, and where the vast volume of water is constantly impelled in one direction. There is then a tendency to a backset, or a rush of water in a contrary direction, and a tumultuous swell is produced, wherever it meets with resistance from the islands, and the banks on which they are based,



as well as the shores of a continent. The long steep beaches of Ascension are admirably adapted for the full display of the effect just described.

The Chanticleer remained four months at Ascension, during which, Captain Foster was employed on shore in making experiments both with the copper and iron pendulum, with the view to ascertain the difference, if there was any, of magnetism. The result, I believe, proved that there was none, although iron ore abounded to a considerable extent in some parts contiguous to his place of observation."

Fernando Noronha was the next scene of Captain Foster's interesting labours. The Chanticleer arrived in Peak Bay, of this island, on the 12th of June, having sailed from Ascension on the 6th. Mr. Webster describes the scenery of this island as exceedingly beautiful, and the following passage will shew his capabilities of doing it justice:—"A richness and variety of vegetation is seen every where, excepting a colossal pyramid of rock, which, rising from the bosom of a grove, stands erect, in barren ruggedness, towering majestically over the fruitful scene around. It is a gigantic block, the summit being eight hundred feet above the level of the sea. It is an excellent mark for seamen, and, when traversing the woody dales of the island, may be seen through the breaks, or above the summits of the trees, presenting a monument of grandeur and sublimity, on which the eye might rest without satiety."

This beautiful island, however, is said to be a "paradise lost," from the apathy and ignorance of the inhabitants. We quote the following particulars from the account of Trinidad, and must here close our extracts:—

"Trinidad is considered as comparatively healthy to some of the West India islands, yet is subject to that scourge, the yellow fever, in all its virulence. Some years are healthy, and others the reverse, without any assignable cause. We hear much said about caution, and some peculiar way of living, to avert the danger; but it is not to be warded off so slightly. A regular and temperate life is no doubt conducive to health at Trinidad; but the best preservation in this, as in all other danger, is the fear and love of the Almighty. The sugarcane is cultivated at Trinidad with considerable success, but the sugar is not esteemed good. There is also a whale-fishery in January, February, and March.

"The mud volcano, in the south-west part of the island, is well worthy of notice, but would with greater propriety be designated the mud fountain. It is a circular basin, of 120 feet in diameter, about 100 feet above the level of the sea. The surface of the basin is generally a little agitated, having numerous little mud cones of a few inches elevation, from whence air escapes in bubbles. The whole, however, is subject to paroxysms, attended with a rumbling noise, a detonation, and vomiting forth of columns of mud and water. Sometimes, also, a few shells are thrown up. The water of it is brackish, and the temperature below that of the atmosphere. Surphuretted hydrogen is sometimes emitted, and a number of hard, round balls of earth, composed of clay and pyrites. Heat does not appear to be the cause of this curious phenomenon; and, therefore, when earthquakes occur, they are probably without volcanic agency, since any gaseous matter pent up may give rise to vibrations of the earth.

"But there is nothing more extraordinary in the whole island of Trinidad than the extensive pitch formations which it contains. The part of the island in which the pitch-grounds, as they are called, are found, is about twenty-four miles from Port-Spain, at a place called Port Breaa. There, it is said, they are 1500 acres in extent. On landing at Port Breaa, which is done on a sandy beach, a person is surprised to see large black rocks of pitch towering above the sand, and pieces of them rolled smooth and plentifully about the beach,



like pebbles. Every step he takes is on pitch ground. Extensive masses are also found, presenting a broad and smooth surface. In some places the road has been entirely made over them; sometimes passing between large pieces rising considerably above the surface. Pitch in general is merely a superficial coating on the surface of the ground, and nothing but strict examination would allow one to believe that the fertile scene around is situated on pitch grounds. But it is cottages and gardens that are planted on it, and vegetation thrives most luxuriantly. After walking up a gentle ascent, about a mile and quarter from the sea, over the pitch ground, the visiter reaches an elevated basin, called the pitch-lake. This is a vast mass of pitch, naturally collected in the form of a lake. The surface of it, moreover, assumes the appearance of one; and it is completely surrounded by a wood. On the confines of the lake, vegetation is abundant and vigorous; and pine-apples grown on the pitch-grounds are said to be remarkably good. A little to the northward of the lake, is a well or fount of liquid tar. But the pitch itself is not confined to the lake, for there are submarine beds of it. Midway between Point Naparina and Point Brea, is a very extensive pitch bank, with no more than ten or twelve feet water on it, the approach to which may be generally known by a strong unpleasant smell, and by the water having a pellicle of tar on its surface. Sometimes, at low-water ships have grounded on this bank; and, should they come to an anchor, the anchor and cable are found covered with pitch. At the Serpent's mouth, there are some reefs formed of pitch, which occasionally increase, and again disappear, and are supposed to be connected with the mud volcano.

The pitch itself is a dull, black, solid substance, breaking with an even fracture, easily scratched by a knife; it emits a peculiar nauseous smell like coal-tar; it sinks rapidly in salt-water, and marks paper a dull brown. At about 310° of Fahrenheit, it fuses imperfectly into a soft mass, more like the softening of coal than the melting of pitch. Spirits of wine, nitric acid, strong alkali, had no effect on it whatever. It differs therefore in chemical composition from pitch, and is incapable of being used for the same purposes. It is used for repairing the roads of Trinidad, and for cementing and binding stones under water.

This very remarkable feature of the geology of Trinidad has led Mr. Webster to question, and we think successfully, the theory of the origin of coal. "The affinity of this substance to coal," he observes, "cannot be doubted; and, notwithstanding the authority of the names in favour of the theory respecting the *vegetable* origin of coal, it is by a remote analogy, and philosophers have never yet made one atom of coal by all their processes. It is a very vague inference, because hard woods become charred by submersion, to say that coal is formed by it. In respect to the circumstance of finding remains of the vegetable kingdom in the coal strata, we may observe on this pitch-lake and ground a very remarkable coincidence.

"The remains of a coal field exhibit the vegetation of a hot climate, and a moist situation, the vegetation of a country abounding in ferns, arundinaceous plants, as the bamboo and palms. About the pitch-lake, all these abound in a remarkable degree; they are in fact growing on it; and with them, a palm called the pitch-lake palm, from the peculiarity of its thriving there. Supposing, therefore, that coal was of similar origin, it may have been similarly situated with regard to vegetation, and we have no difficulty whatever in discerning how it is that vegetables become so abundant in it. If the pitch-grounds were now to be covered, or buried beneath other rocks, the vegetables already collected in them, or about them, would hereafter occasionally be found. We have seen that there are pitch-grounds in the sea, in a state sufficiently soft to receive the anchor of a ship; and therefore shells of marine origin may be



found in this substance. In the fissures of the pitch-lake are pools of fresh water, containing fish; and at a very short distance from them, the marine beds may all contain salt-water fish. Besides this, a river may run over the pitch-grounds, and then we shall have every variety. Hence, some very puzzling and opposite appearances may be found in juxta-position. The coal formations of our own country may probably have originally been in the same state as now are the pitch-grounds of Trinidad, which would tend considerably to explain some of the present anomalous appearances. The pitch-grounds, in my opinion, are primordials, and do not result from the conversion of vegetable matter. The botany of the pitch-grounds would tend to elucidate the subject of organic remains found in the coal strata, and I am satisfied that a very surprising conformity would be discovered between them. No one dreams of the pitch-lake being formed of the surrounding vegetation."

We feel assured that these extracts will convince our readers of the great worth of these volumes to all who are desirous of adding to their stock of knowledge. In a future edition, at which we cannot doubt that it will arrive, emendations in the style of some few passages may be recommended, which would certainly enhance their value.

We must not close these remarks without noticing the appendix to the work, in which is embodied a vast mass of information, consisting of the reports of the surveys made by the officers under Captain Foster's command, with extracts from his own papers, particularly a letter addressed by him to the hydrographer, Captain Beaufort, which will be read with melancholy interest. This portion of the work also contains large additions to the facts of natural history, geology, meteorology, &c. &c., introduced by Mr. Webster into his diversified "narrative." The view which it altogether presents of the unwearied zeal and commanding abilities employed in the prosecution of this scientific voyage, will deepen the regret that must be already felt for the untimely fate of him who animated and directed its labours. Captain Foster was only thirty-four years of age. We are very much mistaken also if the details of this narrative will not raise somewhat nearer to its *just* elevation in public regard, the Surveying department of the naval service—hitherto, it must be acknowledged, less an object of consideration and encouragement than it manifestly deserves.

**A TREATISE ON NAUTICAL SURVEYING, Containing an Outline of the Duties of the Naval Surveyor, with Cases applied to Naval Evolutions, and Miscellaneous Rules and Tables, useful to the Seaman or Traveller. By COMMANDER EDWARD BELCHER. Richardson, Cornhill. 1835.**

THE art of surveying differs from that of navigation, inasmuch that no one can practise the former without understanding it; whereas a man may navigate a ship from one end of the world to the other without knowing any thing of the nature of the rules by which he works. Yet, on the other hand, the transition from geometrical principles to their application in making the plans of places is more distinct and evident than in any other branch of applied science; and it is therefore, we think, to be regretted, that the author of a work on this subject, which stands next to seamanship and gunnery in the ascending scale of naval qualifications, should not have devoted a few pages to make friends of beginners. In doing this, there was opportunity for a man of talent, who thoroughly knew his subject, to reduce the necessary portion of theoretical matter into the smallest compass, and to exhibit it with the greatest possible clearness. It is, of course, no business of ours, who have



to examine the work as we find it, to discuss what it might have been; yet in opening the work before us, we cannot but regret such a deficiency, not only on account of the younger readers who might thus have qualified themselves, by a single work, as surveyors, but on account of the author himself, who would thus have made his work more generally useful.

Captain Belcher states, at p. 2, that his treatise is calculated for those only "who have completed the initiatory course of navigation." This does not, to be sure, exact much qualification, yet the mention of it confirms us in the opinion we have already expressed; inasmuch as we know persons, who, from a taste for surveying, and small beginnings in these matters, have, by degrees, arrived at a knowledge of nautical astronomy; but we believe that there are few who possess a respectable knowledge of this latter subject, who have not also an acquaintance with nautical surveying.

If, however, Captain Belcher has been pleased to adopt a different course, he is still entitled to our cordial acknowledgments for not having descended to the state of wretchedness of an author who writes for the "meanest capacity." The meanest capacity is no capacity at all, and he who would try to make a book for such a species of intellect, would give no favourable symptom of the state of his own. An author wrote a work, which, he said, must be understood by every body, because it was addressed to the meanest capacity; on which some one sneeringly asked him if he understood it himself.

The book before us treats of the complete application of the science of surveying to naval surveys, and includes certain matters of nautical astronomy, not treated of at sufficient length in works on navigation. The nature of it, however, will be more fully expressed in the author's words, who first introduces it with this apology:

"\* \* \* yet as others far more competent have not thought fit to come forward, I deem it my duty to offer the results of my personal experience; more particularly as the modes of operation, pursued during the surveys on which I have been employed, have been founded on a system of my own, and, I trust, have combined accuracy and despatch."

In page 2 he states further:—

"The object of this Treatise is to present in a concise form, the various formulæ used in modern surveying,—the prosecution of the several parts of each survey in detail,—rules and tables useful to the seaman or traveller,—the application of the principles of surveying to evolutionary operations, together with remarks on the methods of taking observations as applied to nautical astronomy. In short, to furnish a general outline of the various points which should occupy the attention of every officer, and particularly those who may think of offering themselves for the surveying department." In which last sentence, from the mention of "every officer," it is plain that the author is resisting the advice of his better genius, to adapt his book, if not to beginners in navigation, at least to beginners in surveying.

The author judiciously commences his work by observing that the sextant alone is sufficient for almost every purpose, and that expensive instruments are by no means necessary; that, in fact, it is the skill of the surveyor, and not the instrument, that gives the character to the survey. That writer confers the greatest benefit on practical, that is, on applied science, who points out how much may be done by the most common means, and who throws overboard the lumber of artificial distinctions; what, for instance, can a beginner think, in looking over Mackenzie's several kinds of surveys, trigonocatenary, orometric, stasimetric, and so forth, but that he has got hold of a work written in some dialect of Greek? Notwithstanding the efforts of practical scientific men, we fear that a judicious discrimination in the number and portability of



necessary instruments, and in the economy of time and labour in the methods of computation, is far from being general. People seem to think, whether travellers or residents, that the more elaborate the instrument, the more trouble it takes on itself, and the less it leaves them to do. Much we hope will yet be done to remove such unfruitful prejudices, but there will always remain a leaven of indolence and want of skill, which will find advocates and buyers of cumbrous and expensive instruments and voluminous tables.

The author recommends the beginner with the sextant in measuring angles, to take a complete round, or three hundred and sixty degrees exactly, to test his eye. At page seven, he recommends the adopting of two distinct index errors, for direct and retrograde motion of the tangent-screw. This, and many other suggestions of the same kind in the work are entitled to attention, coming as they do from one who is evidently an accomplished observer. In the description of instruments necessary or useful in those matters, it is a pity he should not have so described Barlow's plate as to be intelligible to those who do not already know its purpose or construction; as this ingenious and important invention is neither so generally used, nor even so generally known, as it ought to be. Captain Belcher then gives us the mode or form of registering observations for survey, which, with other matters, are afterwards illustrated in page 30, in the case (for exercise) of a ship making the land, in which, after fixing her position accurately, he proceeds to discover errors in the chart, and measures the heights of the hills, &c. In page 48, in the method of fixing a station by the two angles subtended by three objects, we first distinctly remark the evil consequences of carelessness in notation and phraseology, by which we fear Ex. 2 will be sufficiently difficult to those who do not first see what is intended to be proved; thus CB, the universal mode of writing a *side*, here means the *angle* subtended by the side CB, thus  $CB = 49^\circ$ ; whereas the side BC is 5.22. Again, we have  $CB = 49^\circ \times 2 = 98^\circ$ , which, by universal agreement, means that CB is  $98^\circ$ , but CB just before is  $49^\circ$ , and the meaning is that  $CB \times 2$  (or  $49^\circ \times 2$ )  $= 98^\circ$ , or as it should be written  $C \times B \times 2 = 98^\circ$ . But the lines xA, xC, should be drawn, or the student cannot form a distinct notion of the angles subtended. The result of carelessness in scientific composition is, that the student who regularly follows what is put before him, must fail to understand the point, unless he be capable of discovering where the obscurity lies, in which case he will most generally find it a saving of time to lay aside the author, and, after being once started, to proceed by himself. As three modes of solution of this problem are given, the author should have pointed out the cases in which each should have been employed—the second being objectionable generally, as determining the large quantity C'x from the small one C'B.

At page 53 is given a plan for conducting a survey of shoals by the boats of a ship, the bases being measured by sound. This we think excellent, and well deserving of study. The point of the ship to which the angles are to be measured, appears afterwards, page 75, to be a mark on the foremast.

It would have had more the air of a practical matter, if the angles had not been so exactly verified: for the least puff of wind, or set of the tide, must derange the position, not only of the boat but of the ship also, several minutes; and as the angles could not all have been observed at the same instant, they could not all agree. At p. 81 are given the rules for working certain arithmetical operations by logarithms. The author states, that the common methods of multiplication by decimals are more liable to error than the very simple form by logarithms. It is singular that the second example should contain a mistake in the decimal, viz. .3 for .4: for it is easy to see that  $68 \times 456.8$  must have .4 for the decimal. In complex arithmetical



operations, logarithms are sometimes the most convenient, but never the most accurate method; because a logarithm is itself but an approximation, being the first or most considerable portion of an infinite series. In speaking of accuracy, most persons overlook the fact, that in all these calculations, every quantity concerned, whether a logarithm or not, with a few solitary exceptions, draws after it an interminable train of figures, of which we take as many as we want, and call the result accurate; but it is obvious that absolute accuracy is altogether ideal: for even if the elements of such calculations were known truly, which from our imperfect means of measuring them they never can be, the result would, after all, be but an approximation, as scarcely any calculation which contains an angle admits of a finite solution.

After p. 100, follow *River Surveys* and *Running Surveys*.

Hitherto the sextant only has been used; at p. 115 the theodolite is introduced in the *Harbour Survey*, which is given at full length, together with the manner of noting the tides, the instructions for which are not so clearly drawn up as they should be: for we fully agree with the author, that more tact and judgment are called forth on this important point of a surveyor's duty than is generally supposed. Indeed, we believe the same may be said of most parts of a surveyor's duty: for the knowledge of some geometrical proportions, and the judicious application of them in practice, without wasting time or labour, are very different things.

In p. 143 are given two methods of ensuring at least a certain depth of water over a bar, or through a channel, to which the reader is referred for details; and then follows an enumeration of the points in which a surveyor is expected to furnish information. The subject of levelling needs further elucidation.

In regard to what the author calls *Evolutionary Surveys*, that is, the carrying on of a survey by the ships of a squadron, or the determination of certain particulars as to the distance or rate of sailing of the enemy, by the application of the same principles, we consider that they furnish a very good exercise for the student, but obviously could not be practised unless the several commanders were expert surveyors.

In p. 171 it is recommended in a note, that guns should be attached to light-houses, to be fired at certain intervals at night, for the purpose of identifying the light, and of ascertaining the distance from the shore. To this it is to be objected, that a gun at night is a very solemn matter, as it either prepares for an important signal or evolution, or is itself the signal of a ship in distress; and the employment of it on any other occasions than these, would tend to loosen the hold this sound ever has on the attention at night. To flashes, which, the author observes, are seen much beyond the light (of a light-house), we have no objection; and as for the distance, let the mariner go up the rigging till he sees the light, or bring it down to a certain point.

In p. 170 is repeated a method of employing the length of the ship for a base line, two observers taking angles from certain points at the extremes to each other, and a vessel or battery, as the third object, at the same instant. This we consider a very valuable suggestion, and it is, therefore, a pity that the rule, table, or whatever be the method of computation, had not been fully completed for immediate application.

In p. 175, the author brings forward a system of instructing certain individuals among the officers of the profession, who, in short, would form a corps of naval engineers. That such an institution might be useful, is an opinion that for many years has had advocates; but as each would educate his engineer according to his own plan, and as the application of science in many naval matters is as yet but very partially understood, we need not now enter on the merits of



the scheme. In all that relates to the mechanics of the profession, practical science is greatly behind-hand. Navigation and Nautical Astronomy have taken immense strides since an author (we quote from memory) of a black-letter book in 1581, which, after all, is only 250 years ago, propounded in solemn phrase, "The Great Art and Mysterie of the Sonne," by which he meant the sun's altitude at 12 o'clock. Instead of the half degree of latitude of those days, we have seen in our times the latitudes and longitudes, not only of definable points, but even of hills and capes, inserted, to the thousandth part of a second;\* in which, however, as we shall see presently, they are liable to "snatch a grace beyond the rules of art."

But the knowledge of mechanics among naval men is comparatively limited, and probably one reason for this may be, that the foreign treatises of the higher order have always been mixed up with an imaginary theory of fluids, which the writer knew, and the reader afterwards learns, to be nonsense from beginning to end. As it requires, of course, certain experience to know what point is touched by the mathematical reasoning, it is not surprising that the learner knowing practice and theory in many points to disagree, and the practice to be right, gives up theory as wrong in general.

We regard, therefore, with much satisfaction the introduction of mechanical considerations in the tables of specific gravity and others, in the work before us, with relation chiefly to floating the stores of a ship, in case of her getting aground. Such matters raise curiosity and excite reflection, and thereby induce a taste for the science, which, with that also for the higher mathematics, are now studied by many of the profession, will ultimately, we hope, leave to naval officers the final discussion of a most difficult and extensive subject. We now come to the astronomical observations, in which the author introduces several observations at length, and, amongst others, equal altitudes for the approximate latitude.

At page 219 we have the time calculated to the thousandth of a second—a degree of accuracy which is but labour in vain; because, if this degree of accuracy be required, the elements of the computations themselves must be, for consistency's sake, carried to the same, or even a greater degree of minuteness; for the error, however small in any one of them, will, in general, have the effect of producing some error, however small, in the result. Thus, in the case before us, 5h. 4m. 5s., taken roundly, as 304.9 minutes, instead of 304.82, causes an error of 2 thousandths of a second in the result, which is of no further consequence than that it is just double the limit of accuracy at which the computer is aiming. Whenever the last degree of accuracy is required, the computation should be examined by the application of the differential calculus, according to the theory of corresponding errors, and the result considered as possibly, though not very probably, vitiated by the *sum* of all the effects produced.

On lunar distances the author observes, at p. 229, "If practicable, distances on each side of the moon should be obtained at close intervals, and the rising and falling bodies obtained over nearly similar arcs. The altitudes are more safely computed, particularly if on shore, when the apparent time can be obtained from transit, or equal altitudes."

The observation of distances, on opposite sides of the moon, especially when they are equal, has the great advantage of nearly destroying the errors of the arc itself at that division, which may be different from that at zero, and thus obtaining from a bad instrument a very good result. What is said of the altitudes is rather obscure. Where there is a choice, the observation or com-

\* Perhaps the reader might like to know what he is about, which we take it for granted he does not, when he is working out the one-thousandth of a second of latitude. This quantity is two-thirds of the diameter of a coffee-cup, as near as can be.



putation of the altitudes must be decided by the degree of accuracy to which either can be obtained.

In the rating of chronometers, our author allows a mean rate of variation where the chronometer changes its rate. Another supposition has been made for this allowance,\* yet, notwithstanding its plausibility, it is found by Dr. Tiarks, whose science and practice with chronometers give his authority the greatest weight on this point, that the above method, which is the simplest, also answers the best for general practice.

The concluding chapter, of hints to travellers, contains much interesting and valuable matter.

The work will, no doubt, be highly valuable, if not indispensable, to naval surveyors. The arrangement might be improved, by a more precise division into chapters or sections; and the author does not seem to have aimed at that simplicity and precision of expression which are the graces of scientific composition. Nevertheless, these remarks are not made so much in censure, as by way of advice; for we hold it desirable by all possible means to get naval men, who must naturally be the best judges in their own matters, to write upon them, and thus to transmit their experience to others, instead of leaving it to die with themselves; and with us, accordingly, manner will always be subordinate to matter.

We cannot part with our author without a word or two on Indexes. In works which are intended merely to amuse, without informing or elevating the mind, and which, after the time is passed away that they were intended to kill, are remembered no more, reference on after occasions is not required; on the other hand, all works whatsoever, in which thought must be employed, should have an alphabetical index, for the purpose of referring to matters without difficulty or loss of time. But, further, the author of a scientific work cannot suppose, that they into whose hands such works fall, read them through as a narrative of events; on the contrary, such works are kept as authorities, or reference on certain points, and therefore the index is not merely convenient, but indispensable.

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WANDERINGS IN NEW SOUTH WALES, Batavia, Pedir Coast, Singapore, and China; being the Journal of a Naturalist in those countries, in 1832-3, and 1834, by George Bennett, Esq., F.L.S., Fellow of the Royal College of Surgeons.

Every book which adds to the store of knowledge of our remote, but highly important Australian colony will be read with anxious interest. Mr. Bennett's work possesses many claims to attention, because it gives us a great variety of facts and incidents illustrative of the character and habits of the aborigines of that country, and much pleasing and animated description of its scenery; and he displays considerable research into the natural history of the insulated continent; a feature which should ever form a distinguishing characteristic of "wanderings" in a country. Although Mr. Bennett does not profess to offer any advice on the subject of emigration, and his work fails in affording that kind of information which is looked for by the anxious inquirer who is seeking "a home beyond the western" or eastern "main," yet it abounds with highly useful hints, which will be found to interest most classes of readers. With these commendations, we are sorry to blend our disapprobation; but we should be deficient in our duty to the author, if we did not point out to him that his work

\* Namely, that the variation is produced by a cause constantly acting, and therefore proportional nearly to the square of the time,



is capable of being considerably enhanced in value by the revision of those inaccuracies of expression which, doubtless through haste, (certainly not through ignorance,) have crept into some of its passages.

**THE ARCHITECTURAL DIRECTOR**, being an approved Guide to Builders, Draughtsmen, Students, &c. By John Billington, Architect, Parts 8 and 9. Price 2s. 6d. each.

We have already expressed our high opinion of this work, and the present numbers amply justify it. To the class of persons for which it is intended, we cordially recommend it.

**TEMPORIS CALENDARIUM** for 1835. By William Rogerson, Greenwich. Stephens, Fleet Street, and Simpkin & Marshall.

**THE SEAMAN'S ALMANAC**, and Celestial Ephemeris for 1835. By John Theodore Barker. Robins & Sons, Tooley Street.

We should have noticed these before, had we not been pressed for space. We are more pleased with the name, and also the contents of the latter, than the former, and can recommend it to our brother sailors, at the low price of a shilling; a quality which the former also possesses.

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#### NEW CHARTS.

**THE COAST OF FRANCE AND ITALY FROM CAPE ROUX TO MONACO.** By Captain W. H. Smyth, R.N., F.R.S. 1823. Admiralty. Price 2s. 9d. No. 323.

As a coasting chart, this is a valuable document to the navigator; being on a large scale, the various anchorages on the coast are distinctly shewn, all of which are introduced from more detailed plans of those places, constructed from the surveys of Captain Smyth.

**THE COAST OF EGYPT, FROM ALAMAID TO THE ROSETTA BRANCH OF THE NILE.** By Captain W. H. Smyth, R.N. 1822. Admiralty. Price 3s. 3d. No. 529.

Every species of information respecting the coast of Egypt must be considered as peculiarly desirable in the present moment, when such subjects are agitated as rail-roads across the isthmus of Suez, and stupendous embankments across the Nile, in order to hoard its water, and to distribute it at all seasons. This chart is on a good scale, and displays its topographical as well as its hydrographical features with all that clearness which distinguishes the charts of Captain Smyth.

**ENTRANCE OF THE RIVER PARAHYBA DO NORTE.** By Commander the Hon. J. F. F. De Roos, and J. W. R. Jenkins, Masters-Assist. H.M.S. Algerine. 1832. Admiralty. Price 1s. No. 1013. *m*.

This valuable little plan exhibits very clearly the dangers of the bar, and the channel of the river, as high up as the town of Parahyba. It is the only thing of the kind we possess, and, with the Directions of Captain de Roos, at



page 695 of our second volume, (No. 22,) will be of great service to vessels bound to that port; for, though pilots are to be had, every prudent commander likes to see how and where they are conducting him.

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**PORT MACEIO, IN PERNAMBUCO.** By Commander the Hon. J. F. F. De Roos, Messrs. Webb, Lavie, and Jenkins. 1832. Admiralty. Price 1s. No. 1029.

Maceio is one of those small establishments on the coast of Brazil that derive a shadow of importance from the facility they afford to communication with shipping, by the external coral reefs, which give a tolerable protection to the anchorage. These reefs are well expressed in this plan, and the proper anchorage pointed out. We observe that these two plans of Captain de Roos's have been also introduced on a small scale into that valuable series of charts of the coast of Brazil which were originally constructed by the French Admiral M. de Roussin, and republished by our Admiralty, with the numerous additions and corrections which have been derived from the remarks and observations of our cruisers on that station.

In one of these charts there has been recently inserted a plan of San Joao, by the Hon. Captain Wellesley, and we avail ourselves of this opportunity, to call the attention of our brethren of the naval service to follow the examples of these two distinguished officers. We do not say there are not many instances of the opportunity of visiting unknown harbours having been turned to a good account by them, but we could wish that those instances were more numerous than they have been. It is gratifying to find officers sacrificing the common pursuits of pleasure while abroad, and lending the importance of rank to the attainment of a species of information which contributes so much to the public good. Nor must we omit to do justice to a few officers of the mercantile service, the nature of whose employment affords them less leisure for the occupation of surveying. We have already recorded the names of several in this profession, whose productions do them ample credit, and tend to raise the character of British seamen in that branch of science which is so peculiarly their own.

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**THE EUXINE OR BLACK SEA, and the Sea of Azov, with Plans of the Harbours; constructed on the authorities described in the new Directory for the Mediterranean and Black Seas.** By John Purdy.

This chart we consider the best we possess at present of the Black Sea; indeed the various authorities which have been followed fully justify this opinion. It is accompanied by a sheet, containing plans of most of the harbours, to which references from the chart are given by numbers. In the directory alluded to, a vast number of authorities are mentioned; but we must take another opportunity of pointing out to our readers the great body of information it appears to present.

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*To the Editor of the Nautical Magazine.*

SIR,—You will oblige me by inserting the following remarks in your number for February, as I consider myself called on to refute the *peevish* attack made on my work, entitled "*Luni-Solar and Horary Tables*," which has appeared in your magazine for this month.

In the first place, I think the subject of too great importance to require that



any indulgence should be extended towards my opinions by one of the opposite sex, especially where he, as Lictor, deems it a matter of duty to expose errors in a science, which might tend to injure it. Had the writer of the article been more impartial, less captious, and treated the subject in a more experienced and manly manner, his remarks might have had some weight, even with the "novices and schoolboys" to whom he alludes, and would have elicited a different reply from me. I am well aware that the work contains many *typographical errors*, which the sensible and scientific man would have glanced at without comment, well knowing that a *first* work of such a description was susceptible of much future improvement, when the author was better initiated in the art of publishing. Such errors, however, ill deserve the term "fanciful," and I will defy any one to prove, that in one instance I have laid down an erroneous rule. I am not, however, anxious to split either straws or "barley-corns" with the writer, and think, if he will calmly read over the work, he will find that I have not cavilled so much at barley-corns as he has done. It is only a pity he does not extend his scrutiny to some other works on navigation which at present rank so high in public estimation, considering himself called on to fulfil conscientiously the "duty of his station." Had he, as he professes, been well acquainted with his subject, and possessed a better knowledge of the works of some of our best writers on navigation, or even of the articles in the magazine in which he writes, (see page 50, art. New Nautical Almanac,) he must have known more about spheroidal figure, and the necessity of corrections being applied accordingly, in more instances than the one to which he refers in his note. Were not this the case, of what utility are the abstruse calculations and minute observations, published in the Nautical Almanac, or the reductions introduced by Professor Lax? I did not, however, think it more "incumbent" on me to reduce the table of *astronomical* to the *geocentric* latitudes, than it would be to reduce the present *geocentric* to the *astronomical* declinations; considering at the same time, that, as all charts were constructed on the old principles, any alteration of the table would cause endless confusion to the mariner, who, "were he fool enough" to try the *geocentric* latitudes, and thereby "run himself high and dry on shore," will, I fear, stand as great a chance of meeting the like misfortune, if he place unbounded confidence in some of the charts of the present day, wherein he will find the same places laid down with a greater difference of latitude, than there exists between the *geocentric* and *astronomical* latitudes; or, is it reasonable to suppose, that, were a captain fortunate enough to make his latitude within that difference, and knew the land to be under his lee, he would continue his course in the direction of the land, either in a fog, or with the night coming on. Every problem in my book is worked two ways; firstly, on the perfect sphere, which in many instances may be accurate enough; secondly, on the supposition of the globe being a spheroid, according to the hypothesis of Sir Isaac Newton, which is followed by the best writers on nautical astronomy; for example, in working for an occultation, the *geocentric* latitude is essential. See page 149 of Galbraith's Mathematical and Astronomical Tables; page 250 of Mackay on the longitude; and likewise Dr. Young's Method, Improved by Henderson, in the Nautical Almanac for 1833. Again, it is required, in finding the longitude by the difference of transit over any two meridians—see in Mackay, p. 216, and Mr. Bailey's Observations, p. 164 of Galbraith, whether or not the time, to one second of the truth, is essential, and nearer if possible. Without applying the reduction, the time found will sometimes differ eight seconds from the truth, by which it will appear, in p. 216 of Mackay, there will arise an error in longitude of about fifty miles; and, by p. 147 of the same work, that the method without reduction is erroneous.



This I think may prove that I have not omitted to consult able writers on the subject, and likewise, that one error neither "accidentally nor necessarily destroys the other." Were this the case, the result of the two calculations would be the same, which the writer has vainly and obscurely endeavoured to prove in his confused formula, where the hour  $\angle$  is maintained to be constant. Supposing a doubt in the altitude of one or two miles, and a similar reduction arising from the figure of the earth be applied; both these accidentally destroy one another, but, will the hour  $\angle$  be constant? It is a well-known fact, that the reduction to the latitude sometimes exceeds ten minutes, and, by p. 141 of Mackay, this, if not applied, will cause an error in the time of transit, which error in the time will likewise render it impossible to find the true R.A. of a star by the transit. "The confident tone," in p. 36, to which the writer alludes, I am prepared to maintain, as well as to prove that I have advanced opinions that will bear the strictest investigation. The following is an example from the rule I therein condemned;  $9^\circ$  of altitude is a favourable position for the  $\Delta$  in lunars. Were this altitude found by calculation, it is still necessary to find the apparent altitude, which is usually done as follows:—Hor. Par. supposed  $61'$

	°	'	"
True altitude .....	9	0	0
Correction .....		54	26
<hr/>			
For apparent altitude gives.....	8	5	34

"Will it?" According to Norie's Epitome, p. 253, and the reviewer, it may. We will try whether this be correct or not, thus: Let the apparent altitude of the  $\Delta$ 's centre be  $8^\circ 5' 34''$ . Required the true altitude—

Apparent altitude ....	8	5	34
Correction .....		53	58
<hr/>			
	8	59	32
True altitude .....	9	0	0

28 diff. So much for the length of the writer's barleycorns!

If I have spoken incorrectly, whence this difference? Surely he who questioned opinions on this matter, should have impartially examined other methods as well as mine, before starting as a competent judge. The distinguished navigator, Mr. Riddle, must have observed the above error in the general rule, as, in his treatise on navigation, p. 252, he has given a most ingenious and correct rule to avoid it.

If the  $\Delta$ , and any other of the heavenly bodies, had the same azimuth at the time of lunar observation, which may frequently be the case, the difference of their true zenith distances would be the true distance required; but, from the preceding rule, there would arise an error of  $28''$  from the  $\Delta$  alone = about 15 miles of longitude.

If the writer of the article in the Nautical Magazine had employed his pen in pointing out errors such as this, he would have been filling "the duties of his station" more laudably, than in endeavouring to hold up to ridicule trivial discrepancies for which the authoress has already apologized to the public, and which time and opportunity will enable her to redeem, though they can neither injure the science on which she has written, nor mislead the most careless mariner. Whether the remark on the meridian altitude be founded in reason,



I will leave to the judgment of the intelligent reader, and only offer a few words on the vague comment on the double altitudes, where the writer affirms, that the geocentric and astronomical latitudes can never agree. Their difference is laid down in a table in the Nautical Almanac for 1833, and in the works of all authors on the subject since the days of Sir Isaac Newton, by which it will be seen that the two latitudes *will* agree near the line, and likewise that the result of calculations will be the same when double-altitudes of the object are taken with equal altitudes at an azimuth of  $90^\circ$ , when the altitude from observation bears no correction; for instance, in lat.  $52^\circ$  N. at 6 h. 37 m. 29 s. A.M., due east, the sun's true altitude  $30^\circ$ ; and at 5 h. 22 m. 31 s. P.M. his altitude was  $30^\circ$  bearing due-west; declination  $23^\circ 12'$  at both observations; required the true latitude. With the altitudes, elapsed time, and declination, the geocentric latitude will be found to be  $52^\circ$  N. (See my rule, p. 15.)

If the reviewer had merely been actuated by his love of the science, or his anxiety to place before the public errors which might have endangered the welfare of a great portion of his fellow-men, it was incumbent on him, as holding so high a place in the estimation of the nautical world, to have taken either the rule or the problem to which he objected, marked out each error as it arose, and thus have proved the fallacy of its principles; then, indeed, I might have thanked him for "the rope" he has thrown out, but at present, notwithstanding the warning contained in his review, I consider myself too firm in the system I have introduced, to seize even the end he has thrown across my shoulders. I cannot for a moment imagine that the two first pages of the article refer to me, as the writer *may* have observed that *one rule* pervades the whole work, and, that by the tables I have introduced the subject is rendered both concise and accurate; and, however much I may contend for nicety in their application in nautical astronomy, yet, in the common course of navigation, I am no stickler for that "disproportionate degree of accuracy," of which the reviewer complains. I am, however, surprised that a man professing so great an interest in the public weal, should promulgate an idea of the unimportance of a sailor understanding the fundamental principles of his art. I am of opinion, that, were the education of that class of men attended to as it ought to be, in schools established for that purpose, we should have fewer disasters at sea, and a more intelligent class of mariners. But navigation has hitherto been too much mystified; the memory is taxed without the understanding being called into play, and thus the pupil becomes tired of rules, which, from not being properly demonstrated and explained, are easily forgotten. If the reviewer will take the trouble to examine *impartially* my work entitled "Navigation Simplified," he may be more inclined to do me the justice to acknowledge that what I have done *has* "combined the maximum of intelligence with the minimum of labour."

I cannot conclude, without availing myself of this opportunity publicly to thank you, sir, for the kind and gentlemanly manner in which you have permitted me to reply through your periodical to the opinions started against my work; and I hope that, on an impartial investigation, it will not be found "vitiated" by *false principles*, whatever its errors may be.

Sir, I have the honour to be your obedient servant,

JANET TAYLOR.

*Saturday, Nautical Academy, 1, Fen Court, Fenchurch Street.*

*Hours of attendance, from 10 till 4.*



## PORT WILLIAM.

*To the Editor of the Nautical Magazine.*

SIR,—I beg the favour of your inserting in your useful work the following account of thirteen vessels which have been wrecked or damaged during the month of December, 1834, in the Tees bay, on the Salt Scars, (Redcar rocks,) which are proposed to be converted into the northernmost pier of Port William Asylum Harbour.

1834.

Dec. 2. The brig *Leda*, of Yarmouth, struck on the Salt Scars, and became a total wreck.

The brig *Resolution*, of Sunderland, struck on the Salt Scars.

A Scotch sloop struck on the Salt Scars, and hoisted signals of distress, but no help could be given. She got off, and bore away.

Dec. 5. The sloop *Alert*, from Grangemouth to Hull, cargo of barley, struck on the Salt Scars.

Dec. 7. The schooner *Leda*, of Whitby, struck on the Salt Scars.

Dec. 9. The schooner *Flora*, of Whitby, totally wrecked on the Salt Scars.

The brig *Mowbray*, of Sunderland, total wreck.

Dec. 17. The brig *Mitchell*, of Hull, cargo of bark and flax, was caught by a gale from the north-east, while at anchor in the Tees bay, and was totally wrecked.

The brig *Fanny*, of Sunderland, was caught by the same gale while at anchor in the Tees bay, and totally wrecked.

At night, during the gale, a sloop was wrecked on the Salt Scars, and her crew drowned. Her cargo of apples, the baskets, of foreign manufacture, part of her main-bower, and her middle and tiller attached, came ashore.

Dec. 28. A brig belonging to Portsmouth, said to be the *Canteen*, got upon the South Gare.

Dec. 29. The schooner *Integrity*, of Guernsey, (uninsured,) struck on the Salt Scar.

Dec. 31. The brig *Comet*, of Sunderland, struck on the North Gore.

I was witness to the greater number of the accidents given in the list. The manly and humane conduct of one of the Redcar pilots in saving the lives of two boys of the *Mowbray*, has induced parties to subscribe for a piece of plate, to present to him as a testimonial to his honour.

If there had been fifty vessels at anchor in the Tees bay, waiting for the daylight tide to enter the Tees, at the same time the *Mitchell* and *Fanny* were wrecked, they would have shared the same fate. Those vessels did not run for the Tees, their cables parted. The Seaton life-boat got the crew out of one, and the others got on shore in their long boat.

The board and casks mentioned in Lloyd's list as picked up at Scarborough, marked "*Flora*," must have belonged to the *Flora* which was totally wrecked on the Salt Scars. By the account of the Captain, and her positions, she must have entered the harbour, and sailed up it as if it were a *bona fide* place of refuge. The high land of Eston Nab was mistaken in the darkness of the night for Huntcliff, an error which has been the loss of scores of vessels. The desire to keep the land aboard during westerly winds, in fact the necessity of doing so, if vessels are in ballast, and it blows hard, is a frequent cause of their running upon the Salt Scars.

The owner of the *Flora* \* was reading at Richmond's coffee-room, when one of the crew entered the newsroom, to inform him of her wreck on the very rocks he was reading about!

\* Query—Was he insured?



It will be observed, that during the short period of one month eight vessels ran upon the Redcar rocks, three of which were totally wrecked; and, of five vessels which got on the sands in the northern part of the Tees bay, three were totally wrecked. I have the opinion of many nautical men, that every one of the above thirteen vessels would have been uninjured, had the asylum harbour been in existence to receive them.

Redcar, 8th Jun. 1835.

I am, sir, your most obedient servant,  
W. A. BROOKS, C.E.

### MORGAN'S WHEELS.

*To the Editor of the Nautical Magazine.*

Sir—In your valuable periodical for this month there is an article, under the head of Miscellaneous Intelligence (page 757,) describing the mode of operation of Mr. Symington's Wheel.

Every man is undoubtedly at liberty to *praise* his own, or any thing not his own which he may happen to admire. But he is not at liberty, by a sort of side-wind, to *attack* the inventions of others, as has been done in the instance under consideration.

After stating that the purpose of Mr. Symington's Wheel is to "effect that great desideratum so long looked for, namely, to work without producing back water" the writer adds, "This has been already done by Morgan's Wheel, but with the addition of much machinery."

Now, Sir, I am prepared to shew that Mr. Symington's Wheel consists of much more machinery, and that too more complicated, than mine; and it is, therefore, somewhat too bad in the writer of the article to point out, as a defect in my wheel, that which exists to a still greater degree in Mr. Symington's.

That I am warranted in my assertion, that Mr. Symington's Wheel has more machinery than mine, the writer of the article will be enabled to see by a single glance at the accompanying sketch, (which I have had lithographed for the better elucidation of my system,) if he will take the trouble to compare it with Mr. Symington's model, which he says he has "seen and admired."

In conclusion I may be permitted to observe that, if success is to be the criterion of merit, (a most unphilosophical mode of judging, by the way,) my wheel has, at any rate, done all which it was ever pretended would be done by it, and has stood the test, both as to efficiency and durability, of five years' continued trial in His Majesty's service, and elsewhere: whereas Mr. Symington's Wheels have, since the article in your Magazine was penned, been taken down from the Alban, and that vessel is now actually having her former wheels refitted to her.

It would be an insult to the well-known justice and impartiality of the Editor of the Nautical Magazine to apologize for requesting the insertion of this letter in your *next number*; as the injury, which I may otherwise sustain by a covert attack (incautiously admitted, I have no doubt) in a publication, which has established so high a character, is incalculable; and as the object of the conductors of the Magazine can only be the promotion of science, and not the furtherance of individual interests.

I have the honour to be, Sir, your most obedient servant,  
WILLIAM MORGAN.

Minerva Cottage, near New Cross, 13 Dec. 1834.

P.S. 30th Dec. A report having been circulated that the wheel was removed from the Alban solely for the purpose of a trivial alteration, and of being then replaced, the above communication was withheld until such time as I was



enabled to ascertain whether such was the case or not. I find, however, that the report is totally undeserving of credit, and that my statement is substantially correct.

**PANORAMA OF LIMA—VOYAGE DOWN THE AMAZON.** Extract from a Letter dated Lima, 20th Aug. 1834.

"There is, I am glad to say, an English officer in this country, Lieut. W. Smyth, of H.M.S. Samarang, who, with praiseworthy activity and zeal, has availed himself of the arrival of his vessel at Callao some time ago, to execute an accurate panorama of the far-famed city of Lima; an exhibition which I have no doubt will afford much pleasure to men of taste and science, as well as the more youthful and novelty-seeking visitors of Leicester-square. Mr. Smyth, anxious to distinguish himself, has turned his attention to the possibility of his returning to Europe by the Amazon; embarking on one of its tributary streams, the Mayro, distant from the city of Huanuco fifty-six leagues, and from this capital 130. From the point of his embarkation to his arrival at Sarayacu, the first mission on the river Ucayali, on descending, he will have to pass through a country inhabited by savage tribes, distinguished for their ferocity. The undertaking is therefore not free from danger, and certainly promises to be highly useful to science, as well as commerce. I feel particular interest in this affair, because Mr. Smyth appears to me to be a most estimable man, and, like the lamented Park, possesses physical, as well as moral qualities, which eminently adapt him for an arduous enterprise."

*Extract from another Letter, dated 8th Oct. Vulpuraiso.*

"The only thing of consequence is the expedition under Lieut. Smyth, and Mr. Low, mate of the Samarang, to discover a new route into the Pachitea Ucayali and Amazon, assisted in the most liberal manner by the Peruvian government. From repeated conversations I have had with Smyth, who is well cut out for the work, and from the information I have received from others, the following is the outline:—The expedition will proceed from Lima about the month of October to Huánuco; from thence to Myno, on the banks of the Pachitea. There it is intended to construct rafts capable of accommodating the party, consisting of an engineer officer and military escort, appointed for the protection of Smyth and Low, whilst navigating the Ucayali, against the attacks of the Casibos, a warlike savage race, said by the missionaries to be cannibals, inhabiting this part of the Pampa del Sacramento, and the banks of the Ucayali and Pachitea: at the confluence of the former with the Amazon, the escort take their leave and return, ascending by the river Hualaga, which is navigable for small boats as far as Cucheros, thence to Huánuco. Smyth goes on to Para and England. The object will be, to ascertain as accurately as possible the geographical position of the most remarkable rivers, and their capability of navigation; specimens of natural history, drawing of the natives, &c. The civilization, if possible, of the Casibos, will be of great consequence: an outlet to the productions of Eastern Peru, and various woods and resources of the Pampa del Sacramento, the richest in South America.

"The most important feature will be to ascertain the extent to which steam-navigation can be effected in these rivers, for the purpose of conveying machinery to Neiro Pasco mines; and that of establishing a direct and expeditious communication with Europe, or indeed with the world. There is something extremely feasible in the outline, and, should the expedition succeed, the journal will be highly interesting, and would form a good paper for the magazine."



## Nabal Register.

COMMISSIONERS for executing the Office of LORD HIGH ADMIRAL of the United Kingdom of Great Britain and Ireland.

The Right Honourable Thomas-Philip-Weddell Robinson, Earl De Grey.  
 The Right Honourable Sir George Cockburn, G.C.B., *Vice-Admiral of the Red, and Major-General of Marines.*  
 Sir John Poo Beresford, Bart., K.C.B., *Vice-Admiral of the White.*  
 Sir Charles Rowley, K.C.B., *Vice-Admiral of the White.*  
 The Right Honourable Anthony Viscount Ashley.  
 The Right Honourable Maurice Fitzgerald.

THE ROYAL NAVY IN COMMISSION—JANUARY 21st, 1834.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B. *Appointed* 23d Jan. 1833. *Flag-Lieut.* T. B. Eden; *Secretary*, Thomas Williams.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H. *Appointed* 27th April, 1833. *Flag-Lieut.* C. H. M. Buckle; *Secretary*, J. Loudon.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming. *Appointed* 16th Aug. 1834. *Flag-Lieut.* Granville G. Loch; *Secretary*, B. Chinmo.—*Flag-Ship*, OCEAN, 80.

<p>ACTEON, 28.—Captain Lord Edward Russell, Portsmouth, fitting, said for South America. Will be ready early in February.</p> <p>ASTREA—Captain A. King, foreign packets, Falmouth.</p> <p>CAMELEON, 10—Lieut. Com. J. Bradley, Portsmouth, fitting.</p> <p>EXCELLENT, late BOYNE—Captain T. Hastings, Portsmouth, for the practice of naval gunnery.</p> <p>PORTSMOUTH, <i>Yacht</i>—Lieut. Com. J. Maitland, Portsmouth.</p> <p>OCEAN, 80—Captain A. Ellice; Sheerness.</p> <p>PIKE, 12—Lieut. Com. A. Brooking, Plymouth, fitting.</p> <p>PIQUE, 36—Capt. the Hon. H. J. Rous, Hamoaze, fitting.</p> <p>PRINCE REGENT <i>Yacht</i>—Captain G. Tobin, C.B., Deptford.</p> <p>RATTLESNAKE, 28—Capt. W. Hobson, Portsmouth, fitting.</p> <p>ROLLA, 10—Lieut. Com. F. H. H. Glasse; 22d Dec. arrived at Sheerness from Shetland, and taken into dock on 24th to be examined.</p> <p>ROVER, 16—Com. C. Eden, at Ply-</p>	<p>mouth, fitting. Will be ready for sea 2d February.</p> <p>ROYAL GEORGE <i>Yacht</i>—Captain Right Hon. Lord A. Fitzclarence, G.C.H., Portsmouth.</p> <p>ROYAL SOVEREIGN <i>Yacht</i>—Captain C. Bullen, C.B., Pembroke.</p> <p>ROYALIST—Lieutenant C. A. Barlow, Plymouth, fitting.</p> <p>SAN JOSEF, 110—Capt. G. T. Falcon, Hamoaze.</p> <p>SCYLLA, 18—Com. E. J. Carpenter, at Sheerness, fitting.</p> <p>SEAFLOWER, <i>Cutter</i>, 4—Lieut. Com. J. Morgan, 21st Dec. returned to Portsmouth from Jersey.</p> <p>SPEEDY, <i>Cutter</i>—Lieut. C. H. Norrington, Portsmouth station.</p> <p>VICTOR, 18—Com. R. Crozier, Portsmouth, supposed for the East Indies; will be ready to sail in February.</p> <p>VICTORY, 104—Capain R. Williams, Portsmouth.</p> <p>WATERWITCH, 10—Lieut. Com. J. Adams, Portsmouth, undergoing extensive alterations and repairs.</p> <p>WILLIAM AND MARY, <i>Yacht</i>—Captain S. Warren, C.B., Woolwich.</p>
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## Abroad.

## LISBON STATION.

- Rear-Admiral, W. H. Gage. *Appointed* 9th April, 1834. *Flag-Lieut.* James L. Parkin; *Secretary*, John Irving.—*Flag-Ship*, HASTINGS, 74.
- CASTOR, 36—Captain Right Hon. Lord John Hay, 26th Oct. in the Tagus.
- HASTINGS, 74—Captain H. Shiffner, in the Tagus.
- LEVERET—Lieut. Com. G. Traill, 28th Sept. in the Tagus; arrived the 20th.
- NIMROD, 20—Com. R. Fair, 4th Jan. in the Tagus; arrived 24th; sailed for north coast Spain, 6th Jan.; 16th Jan. left Santander; 20th arrived at Falmouth.
- RINGDOVE, 16—Com. W. F. Lapidge, 4th January at Santander.
- SARACEN, 10—Lieut. Com. T. P. Le Hardy, 5th June arrived at Lisbon from Cadiz.
- STAG, 46—Capt. N. Lockyer, C.B., 4th January in the Tagus; 5th sailed for Cadiz.

## MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B. *Appointed* 18th Dec. 1833. *Flag-Lieut.* H. B. Young; *Secretary*, T. Triphook.—*Flag-Ship*, CALEDONIA, 120.

- BRITANNIA, 120—Captain P. Rainier, 18th Dec. left Vourla for Malta.
- CALEDONIA, 120—Capt. T. Brown, 18th Dec. at Vourla.
- CANOPUS, 84—Hon. J. Percy, 12th Nov. and 27th Dec. at Vourla.
- CARRON, St. V.—Lieut. Com. J. S. Duffil. See Steam Vessels.
- CEYLON, 2—Lieut. J. G. M'Kenzie, Malta.
- CHILDERS, 16—Com. Hon. H. Keppel, 27th Dec. left Malta for Vourla.
- COLUMBINE, 18—Com. T. Henderson, 27th Dec. arrived at Malta from Vourla, sailed 19th; sailed 1st Jan. for Vourla.
- EDINBURGH, 74—Captain James R. Dacres, 27th Dec. at Vourla.
- ENDYMION, 50—Captain Sir Samuel Roberts, C.B., 27th Dec. at Vourla.
- FAVORITE, 18—Com. G. R. Mundy, 27th Dec. at Tripoli.
- JASEUR, 18—Com. J. Hackett, 11th Jan. at Gibraltar.
- MALABAR, 74—Capt. Sir W. A. Montagu, K.C.H., 27th Dec. at Vourla.
- MEDEA, 6—Com. H. T. Austen, 28th Oct. left Vourla with despatches for Constantinople.
- ORESTES, 18—Com. H. J. Codrington, Nov. on the coast of Spain. We regret to hear that two of the crew of the Orestes have been lately murdered at Alicant by some Spaniards, Lee, a gunner, from the Excellent, and Sparles, a ropemaker, from Portsmouth. They were both very drunk some time in the day, when last seen; and they were both found together weltering in their blood, at seven the next morning, in one of the most frequented parts of Alicant. Commander Codrington adds, that such is the state of the police and the laws there, that he can find no clue to discover the murderers.
- PORTLAND, 52—Captain D. Price, 27th Dec. at Vourla.
- REVENGE, 78—Capt. W. Elliott, C.B., 3d December sailed from Malta for Toulon; 27th Dec. at Vourla.
- SCOUT, 18—Com. W. Holt; 2d Jan. arrived at Malta from Smyrna.
- TALavera, 74—Captain E. Chetham, C.B., 18th Dec. left Vourla for England; 20th Jan. arrived at Plymouth, 23d moved into Hamoaze.
- THUNDERER, 84—Captain W. F. Wise, C.B., 27th Dec. at Vourla.
- TRIBUNE, 24—Captain J. Tomkinson, 23d Nov. sailed from Malta for the squadron in the Archipelago.
- TYNE, 28—Capt. Right Hon. H. J. C. Viscount Ingestrie, C.B., 3d Dec. at Malta; 21st Dec. and 2d Jan. remained.
- VERNON, 50—Capt. M'Kerlie, 7th Dec. passed St. Helen's on her way to the Mediterranean.
- VOLAGE, 28—Capt. G. B. Martin, C.B., 10th Nov. left Malta for Constantinople with despatches.



## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B. *Appointed* 30th May, 1834. *Flag-Lieut.* James Maitland; *Secretary*, J. B. Hutchings.—*Flag-Ship*, THALIA, 46.

- BRISK, 3—Lieut. Com. J. Thompson, Sept. on the Gold Coast.  
 BRITOMART, 10—Lieut. W. H. Quin, 12th Oct. sailed for Goree.  
 BUZZARD, 10—Lieut. Commander N. M'Namara, 12th Oct. sailed for Cape of Good Hope.  
 CHARYBDIS, 3—Lieut. Com. S. Mercer, 12th Oct. at Sierra Leone.  
 CURLEW—Lieut. Com. Hon. J. Denman, 22d Jan. left Portsmouth for Sierra Leone.  
 FAIR ROSAMOND, *Schooner*—Lieut. Com. G. Rose, Bight of Benin.  
 FORESTER—Lieut. G. G. Miall, Sept. on the Gold Coast.
- GRIFFON, 3—Lieut. J. E. Parlbay, Sept. and Oct. at Ascension.  
 LYNX, 10—Lieut. Com. H. V. Huntley, Oct. at Ascension.  
 PELICAN—Com. B. Popham, 21st Jan. sailed from Sheerness.  
 PELORUS, 18—Com. R. Meredith, 8th Nov. at Sierra Leone.  
 THALIA, 46—Capt. R. Wauchope, 12th Oct. sailed for Cape of Good Hope, from the Gambia.  
 TRINCULO, 18—Com. J. R. Booth, 16th Sept. arrived at the Cape of Good Hope; 5th Oct. remained.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Appointed* 30th May, 1834. *Flag-Lieut.* Hon. J. R. Drummond; *Secretary*, ——— *Flag-Ship*, WINCHESTER, 52.

- ALGERINE, 10—Lieut. Com. G. Stovin, 30th Aug. arrived at Plymouth; 6th Sept. sailed for the Cape. Spoken with 17th September. Lat. 38° N., long. 13° W.  
 ALLIGATOR, 28—Captain G. R. Lambert, 17th June arrived at Sydney; 2nd July sailed for the southern coast.  
 ANDROMACHE, 28—Capt. H. D. Chads, C.B., 6th May arrived at the Cape from Rio, on her way to Canton, with Lord Napier and suite; 24th June passed Anjeer.  
 CURAÇOA, 26—Capt. D. Dunn, ordered home, 7th Oct. at Madras.  
 HARRIER, 18—Com. S. L. H. Vassal, 3d July arrived at Madras from Trincomalee, sailed same day on a cruise, 25th July arrived at Singapore.  
 HYACINTH, 18—Com. F. P. Blackwood, 30th Sept. left Madras for New South Wales.  
 IMOGENE, 18—Captain P. Blackwood, 23d July arrived at Singapore from Batavia, 3d August left Singapore for China. Ordered home.  
 MAGICIENNE, 24—Captain J. H. Plumridge, 5th August at Bombay, 20th arrived there from Zanzibar. She had been sickly, having lost her Master, Carpenter, and Messrs. Kennedy and Lloyd, Mates.  
 MELVILLE, 74—Vice-Admiral Sir John Gore, K.C.B. Capt. H. Hart, 7th Oct. at Madras; to proceed to Bombay.  
 RALEIGH, 16—Com. M. Quin, 12th Oct. left Plymouth for the East Indies, 23d Oct. arrived at Madeira, 25th sailed for Calcutta.  
 ROSE, 18—Com. W. Barrow, 30th Aug. touched at Madeira, on her way to the East Indies. 21st Sept. spoken in lat. 5° 55' N. long. 19° 18' W.  
 WINCHESTER, 52—Capt. E. Sparshott, K.H. 5th Nov. arrived at Madeira, 8th sailed for Rio on her way to the East Indies, 20th spoken in lat. 7° N. long. 20° W. by the ship Doncaster, arrived in the river.  
 WOLF, 18—Com. E. Stanley, 15th Oct. arrived at Madeira from Plymouth; 18th sailed for the Cape.  
 ZEBRA, 16—Com. R. C. M'Crea, 24th Sept. left Portsmouth for the Cape, Mauritius, and Bombay.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Appointed* 6th Dec. 1832. *Flag-Lieut.* H. W. Willes; *Secretary*, T. Woodham.

*Flag-Ship*, PRESIDENT, 52.

- ARACHNE, 18—Com. J. Burney. She sailed from New York on the 12th Dec. with Capt. Kitson, Royal Engineers, he having successfully entered into contracts with persons there for erecting the Light Houses on Bahama Island.  
 BELVIDERA, 42—Capt. C. B. Strong,



- 21st Nov. at Barbadoes, sailed 24th, 30th Nov. at Port Royal.
- CHAMPION**, 18—Commander Hon. A. Duncombe, 25th Dec. sailed to relieve homeward bound ships, detained by easterly winds in the chops of the channel, 1st Jan. returned to Plymouth, 17th Jan. sailed for West Indies.
- COLUMBIA**, St. V.—Master Commander James Henderson, 23d touched at Plymouth, 25th sailed for the West Indies.
- COMUS**, 18—Com. W. P. Hamilton, 21st Nov. at Barbadoes from Halifax, arrived 15th. The Comus had orders for the Belvidera and Racer to join the Admiral at that place, as their captains were to form part of a Court Martial about to assemble to try Commander M'Ausland, of the Cruizer, for having received passage money from an American gentleman; and for having got the Cruizer ashore off St. Juan Nicaragua, when they were obliged to throw all her guns overboard (except two six-pounders) to lighten her.
- CRUIZER**, 18—Com. James M'Causland, 28th Sept. sailed from Port Royal for Bermuda, to repair damages from getting ashore at San Juan di Nicaragua: 8th October at Bermuda.
- DEE**, St. V. 4—Com. W. Ramsay, 21st Nov. at Barbadoes. The Dee arrived 17th Nov. having steamed up from Antigua, a distance of 400 miles dead to leeward, in less than 48 hours, which would have taken a weatherly vessel at least 10 days to beat up, thereby showing the decided superiority of steam navigation among those islands, particularly at this critical period. The Dee was to proceed to Demerara with Sir Charles Smith, Governor of the Forces, for the purpose of inspecting the troops and garrison there.
- DISPATCH**, 18—Com. G. Daniell, 12th Oct. arrived at Barbadoes from Martinique.
- DROMEDARY**—R. Skinner, Bermuda.
- FIREFLY**, 2—Lieut. J. M'Donnel, 12th Nov. arrived at Jamaica.
- NIMBLE**, 5—Lt. Com. C. Bolton. By accounts received, we are sorry to find that H. M. Schooner Nimble, Lt. Com. C. Bolton, has been lost on Quay Island, Old Bahama Channel. The Nimble had been in chase of a slave, which ultimately
- FLAMER**, St. V.—Lieut. Com. C. W. G. Griffin, 3d Jan. left Lisbon for Barbadoes. It has been stated that the Flamer went to Lisbon to repair damages. She had orders to touch there. Left Plymouth 18th Dec. with despatches for Sir Geo. Cockburn, via Lisbon.
- FLY**, 10—Com. P. M'Quhae, 30th Nov. at Jamaica.
- FORTE**, 44—Capt. W. O. Pell, 29th Nov. at Port Royal, Jamaica.
- GANNET**, 18—Com. J. B. Maxwell, 21st Oct. at Halifax.
- LARNE**, 18—Com. W. S. Smith, 28th Nov. at Jamaica.
- MAGNIFICENT**, 4—Lieut. J. Paget, Port Royal.
- PICKLE**, 5—Lieut. Com. A. G. Bulman, Sept. sent to Halifax.
- PINCHER**, 5—Tender to flag-ship, 27th Oct. arrived at Newfoundland from Halifax.
- PRESIDENT**, 52—Captain James Scott, 5th Nov. at Halifax; about to sail for Bermuda, 18th sailed from Halifax. The Admiral, Sir G. Cockburn, was expected at Jamaica the middle of December from Bermuda and Barbadoes.
- RACEHORSE**, 18—Com. Sir E. Home, Bart. 30th Nov. at Port Royal.
- RACER**, 16—Com. J. Hope, 6th Nov. left Jamaica for Barbadoes, arrived there 15th, 30th Nov. expected at Port Royal, Jamaica.
- RAINBOW**, 28—Capt. Thomas Bennet, 30th Nov. at Jamaica.
- RHADAMANTHUS**, St. V.—Com. G. Evans, 8th Nov. and 30th Nov. at Port Royal, Jamaica.
- SAVAGE**, 10—Lieut. R. Loney, 8th Nov. at Port Royal, Jamaica.
- SERPENT**, 16—Com. J. C. Symonds, 22d Nov. at St. Lucie.
- SKIPJACK**, 5—Lieut. Com. S. Ussher, (act.) 30th Nov. Port Royal.
- VESTAL**, 26—Capt. W. Jones, 8th Nov. at Port Royal, 24th Nov. left Barbadoes, 30th Nov. at Port Royal.
- WASP**, 18—Com. J. S. Foreman, 8th Nov. left Barbadoes for Trinidad, 26th Oct. at English Harbour, Antigua, 4th Nov. at Barbadoes.



ran ashore, and the crew thereby managed to escape. The Nimble then succeeded in removing 270 negro slaves, but had not proceeded far with her emancipated cargo, before she encountered the sad disaster alluded to. Whilst we are happy to state that the officers and crew of the Nimble were all saved and about 200 of the slaves, we have to regret the loss of about 70 of the latter, notwithstanding the most strenuous exertions of their deliverers from bondage. The Nimble had been a successful cruiser against the slave traffickers. Lieut. Bolton, his officers, crew, and the saved slaves, arrived at Havannah on Nov. 17th.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hammond, K. C. B. *Flag-Lieut.* A. S. Hammond; *Secretary*, E. E. Vidal.—*Flag-Ship*, SPARTIATE, 74.

BLONDE, 46—Capt. F. Mason, C. B. 8th Oct. at Valparaiso, arrived 6th Aug. from Falkland Islands.

CHALLENGER, 28—Capt. M. Seymour, 13th June at Callao from Valparaiso, to proceed to the Sandwich Islands, to be at Valparaiso in November, and to leave the Pacific in January.

COCKATRICE, 6—Lieut. Com. W. L. Rees, running between Rio Janeiro and Buenos Ayres.

CONWAY, 25—Capt. H. Eden, to leave Valparaiso in Oct. for the northern ports; sailed from Valparaiso 1st Oct. for Lima, Acapulco, San Blas, Mazatlan, and Guaymas. To return home.

HORNET, 6—Lieut. Com. F. R. Coghill, running between Monte Video and Rio Janeiro.

NORTH STAR, 28—Capt. O. V. Harcourt, arrived 9th Oct. at Buenos Ayres, from Rio.

RAPID, 10—Lieut. Com. F. Patten, November at Bahia.

SAMARANG, 28—Capt. C. H. Paget, 25th Nov. left Rio for England, 13th Jan.

arrived at Spithead, 15th moved into harbour to pay off. During the period of the Samarang's service, three years and eight months, her crew have been particularly healthy, only one man having died from sickness, and three by casualties. She has been twice round Cape Horn, and run, since her leaving Portsmouth, in July, 1831, 62,000 miles, which is nearly three times the circumference of the globe.

SATELLITE, 18—Commander R. Smart, ordered home; 7th Aug. sailed for Valparaiso, arrived 4th October; to sail for Callao shortly.

SNAKE, 16—Com. W. Robertson, 23d Oct. left Rio for Falkland Islands.

SPARROWHAWK, 18—Com. C. Pearson, 25th Nov. at Rio, 5th Nov. returned there from the Falkland Islands.

SPARTIATE, 76—Capt. R. Tait, 25th Nov. at Rio Janeiro.

TALBOT, 28—Capt. F. W. Pennell, 20th Oct. sailed for Rio Janeiro with the newly-appointed Admiral, who hoisted his flag on the 15th.

#### TROOP SHIPS.

ATHOL, *Troop Ship*—Master Com. A. Karley.

BUFFALO, *Store Ship*—Master Com. F. W. R. Sadler, Portsmouth, fitting.

JUPITER, *Troop Ship*—Master Com. R. Easto, 24th Nov. arrived at Malta after a passage of 35 days from Gibraltar,

3d Dec. at Malta, 4th Jan. arrived at Cork.

ROMNEY, *Troop Ship*—Master Com. James Wood, 11th Jan. arrived at Plymouth from Cork and Mediterranean. To be ready for sea on 28th January.

#### STEAM VESSELS.

AFRICAN—Lieut. J. West, Channel Station.

ALBAN—Lieut. Com. J. B. Roepel, 5th Jan. left Woolwich for Plymouth, Falmouth, and Mediterranean.

BLAZER—Lt. Com. J. Pearse, Chatham.

COLUMBIA—See West Indies.

CARRON—Lieut. Com. J. S. Duffell, 10th Dec. arrived at Plymouth from the Mediterranean; 10th Dec. sailed for Woolwich.

COMET—Woolwich.



**CONFIANCE**, 2—Lieut. Com. J. M. Waugh, *Hamoaze* 15th Jan. 18th sailed for Falmouth. See Packets.  
**DEE**, 4—See North American Station.  
**FIREBRAND**—Mr. J. Allen, arrived at Ostend 11th Jan. Home Station.  
**FIREFLY**—See Packets.  
**FLAMER**, 6—See West India Station.  
**LIGHTNING**—Mr. T. Allen, Woolwich.  
**MEDEA**, 6—Com. H. T. Austen. See Mediterranean Station.  
**MESSENEER**, 1—Com. Mr. J. King, Channel Station: running between Thames, Portsmouth and Plymouth, and Milford.

**METEOR**—Lieut. Com. J. Duffil, 19th Jan. arrived at Plymouth, 21st sailed for Falmouth.  
**PHENIX**—Com. R. Oliver.  
**PLUTO**—Woolwich.  
**RHADAMANTHUS**—See West India Station.  
**SALAMANDER**—Com. W. L. Castle, Portsmouth.  
**SPITFIRE**, 6—Lieut. Com. A. Kennedy. See Packets.  
**TARTARUS**—Lieut. Com. H. James. See Packets.

## SURVEYING VESSELS ABROAD.

**ÆTNA**, 6—Lieut. Com. W. Arlett, 2d Dec. at Teneriffe, about to commence a survey of the Canary Islands.  
**BEACON**—Com. R. Copeland, surveying in the Archipelago; 17th Nov. at Cheshmè.  
**BEAGLE**, 10—Com. R. Fitz-Roy, surveying the coasts of Patagonia and Chili; 9th Oct. at Valparaiso. The Beagle, surveying vessel, was refitting and recruiting her crew, after their long and severe services along the frozen and barren shores of Patagonia, Terra del Fuego, &c. previous to recommencing their labours upon the south shore of Chili. All was quiet at Chill.  
**FAIRY**, 10—Com. W. Hewett, Nov. returned to Woolwich from the survey of the North Seas.  
**GULNARE**, Hired Schooner—Capt. H. W. Bayfield, surveying the Gulf of St. Lawrence.  
**INVESTIGATOR**, 16—Mr. G. Thomas, November, returned to Woolwich.  
**JACKDAW**—Lieut. Com. E. Barnett, 20th Dec. at Nassau.  
**MASTIFF**, 6—Lieut. Com. T. Graves, surveying in the Archipelago; 18th Nov. at Vourla, 27th Dec. arrived at Malta.  
**RAVEN**, Cutter—Lieut. H. Kellet, in company with *Ætna*.

**THUNDER**—Com. R. Owen, 21st Nov. at Nassau, arrived 9th.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.  
 Lieutenants, M. A. Slater; W. L. Sheringham, H. C. Otter.—East Coast of Great Britain.  
 Lieutenants, H. M. Denham; C. G. Robinson.—West Coast of Great Britain.

## PAID OFF.

**PIKE**, 12—Plymouth.  
**BUFFALO**—7th Jan. Portsmouth.  
**MADAGASCAR**, 46—Captain E. Lyons, C.B., 23d Nov. left Malta for England; 3d Dec. arr. at Portsmouth.  
**FAIRY**, Sur. Ves.—Woolwich.  
**PEARL**—20th Dec. at Sheerness.  
**MADAGASCAR**—17th Jan. Portsmouth.  
**SAMARANG**—24th Jan. at Portsmouth.

## COMMISSIONED.

**RATTLESNAKE**—29th Dec.  
**FAIRY**—Surveying vessel, Woolwich.  
**BUFFALO**—9th Jan. at Portsmouth.  
**PIKE**, 12—Plymouth.

## PROMOTIONS AND APPOINTMENTS.

## PROMOTIONS.

**COMMANDERS**—Hamilton, W. Henderson, G. Wilson, W. Mallett, G. A. Elliott.

**LIEUTENANTS**—G. Lavie, G. A. Bedford, J. R. Ward, W. Wise.

**MASTER**—G. Wilson.

**PURSERS**—J. Lord, W. Spriggs, F. Gore, J. Holmes, G. T. Plumby, A. Laidlow, C. Wickham, G. J. Roberts, T. P. Macnamara, J. Taylor.

*Flag-Lieut. to Vice-Admiral Sir Geo. Cockburn*, Lieut. W. A. Willis.



## APPOINTMENTS.

ALBAN, St. V.—Assist. Surg. J. Gibson.  
 ACTÆON, 26—Lieut. C. F. Newman.  
 BLAZER, St. V.—Purser, W. Cotsell;  
 Assist. Surg. J. K. Ballard.  
 BELVIDERA, 42—Surg. W. M'Clare.  
 BLONDE, 46—Capt. R. Smart, K.H.,  
 (act.); Lieut. act. A. Kennedy.  
 BEAGLE, Surv. Ves.—Purser, act.  
 M. Dring, vice Rowlett.  
 BUZZARD, 10—Lt. Com. J. M'Namara.  
 BUFFALO—Master Com. J. T. Sadler.  
 CHALLENGER, 28—Capt. O. V. Har-  
 court.  
 COLUMBIA, St. V.—Assist. Surg. T. F.  
 Osborne.  
 CHAMPION, 18—Lieut. G. C. Mends.  
 CAMELEON, 10—Sec. Master, J. S.  
 Purches; Mid. R. B. Barwell.  
 COAST GUARD—Com. W. Kelly;  
 Lieuts. W. Clapp, J. M. K. Robertson,  
 W. Goose, A. Graves, L. Deunchy, R. A.  
 Jackson, C. G. Clarke, N. Newnham.  
 CURLEW, 10—Assist. Surg. J. H.  
 Martin; Sec. Master, D. Craigie.  
 FAIRY, Surv. Ves.—Com. W. Hewett;  
 Lieut. Battersby.  
 FIREFLY, St. V.—Assist. Surg. W.  
 Bain.  
 GOLDFINCH, Packet—Assist. Surg.  
 C. R. Brien.  
 HASTINGS, 74—Lieut. W. N. Russell.  
 HASLAR HOSPITAL—Assist. Surgs.  
 R. Denmark, James Selleck.  
 JASEUR, 16—Master, J. Haynes;  
 Surg. J. Dunlop.  
 LARNE, 18—Surg. act. J. Dunn.  
 LYRA, 6—Assist. Surg. C. A. Air.  
 MUTINE, Packet—Assist. Surg. J.  
 Ferrier.  
 NIMROD, 20—Lieut. C. A. Galland;  
 Master, R. Mattacott.  
 NORTH STAR, 28—Capt. M. Seymour.  
 ORDINARY—Surg. C. Maybery.  
 PELICAN, 16—Lieuts. J. B. Marsh,  
 J. R. Dacres; Master, act. C. Tucker;  
 Surg. A. S. Allen, M.D.; Purser, J. Lyall;  
 Assist. Surg. J. Sinclair, M.D.

PIKE, Schooner—Lieut. C. Brooking;  
 Assist. Surg. J. L. M'Call; Clerk, J. C.  
 Heathman.

RACER, 16—Purser, act. R. M.  
 Jeffrey.

RATTLESNAKE, 28—Capt. W. Hob-  
 son; Lieuts. C. Richards, H. R. Henry,  
 T. M. C. Symonds; Master, C. Pope;  
 Purser, T. Brown; Surg. N. M'Grath;  
 Assist. Surg. J. W. Bowler; Sec. Master,  
 W. Ledstone; Mates, H. Bennet, C.  
 Connor.

ROYALIST, 10—Lieut. C. A. Barlow;  
 Assist. Surg. G. D. Austen; Clerk, H.  
 Snow.

SALAMANDER, St. V.—Lieut. F. T.  
 Brown.

SAN JOSEF, 100—Assist. Surgs. L.  
 M'Call, J. Crichton.

SATELLITE, 18—Com. act. G. W. C.  
 Lydiard.

SCYLLA, 16—Master, W. Jennis;  
 Surg. T. Gibson; Purser, D. J. Simp-  
 son; Assist. Surg. T. Hunter, (b).

SKIPJACK, 5—Lieut. Com. S. Usher.  
 SCORPION, 10—Assist. Surg. C.  
 Conyngham.

SPEEDY, 8—Sec. Master, J. Cater;  
 Assist. Surg. W. Dunbar.

SPARTIATE, 76—Lieut. T. J. Clarke.  
 SPITFIRE, St. V.—Assist. Surg. R.  
 Arnott.

TWEED, 20—Purser, act. Gilbert.  
 VERNON, 50—Lieut. P. Duthy.

VICTOR, 10—Com. R. Crozier;  
 Lieuts. H. Harvey, B. Haines; Master,  
 J. Mitchell; Surg. R. C. Nutt; Purser,  
 W. A. Harris; Master's Assist. H.  
 Brehant; Mid. W. A. Lee; College Mid.  
 C. Bowles; Clerk, M. Rowe.

VICTORY, 104—Lieuts. M'Neale,  
 C. Gayton; Assist. Surgs. A. R. Hoblay,  
 J. Sellick, A. J. Pilmer, W. Roy; Mate,  
 G. G. Patterson.

WINCHESTER, 62—Lieut. G. K.  
 Ogilvy.

WILLIAM AND MARY, Yacht—Lieut.  
 W. Allen.

THE ROYAL GEORGE.—Our readers have heard of Mr. Deane, and his extraordinary submarine operations on the Royal George, at Spithead. Mr. Deane is now preparing an exhibition of his apparatus at 209, Regent-street, and, among other things, one of the brass 24-pounders which he has recovered from that vessel. It is impossible to contemplate such objects without feeling that we are brought back to the very time the accident occurred, even the old Admiral Kempenfeldt is as if present before us. We are quite sure that the novelty of Mr. Deane's exhibition, and the enterprising and truly national character of his labours, will ensure him that cordial and generous support from a British public which he so fully deserves.



FALMOUTH, 20TH JANUARY.

LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
VIPER.....	Lt. Com. L. A. Robinson	4 Jan.	_____	_____	1 Feb.
ESPOIR.....	Lt. Com. W. C. Riley ..	9 Jan.	_____	_____	6 Feb.
PANTALOOM.....	Lt. Com. N. Cory.....	23 Jan.	_____	_____	20 Feb.
NAUTILUS.....	Lt. Com. M. Crooke....	16 Jan.	_____	_____	13 Feb.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—(by steamers)—51 days; sails 1st of every Month.—Route—To Cadix, Gibraltar, Malta, Zante, Patras, and Corfu, and thence returns in the same rotation.

TARTARUS, st. v. | Lt. Com. H. James .... | 3 Novem. | 10 Jan. | Gibraltar | 24 Dec.

NORTH AMERICA—9 weeks: sails 1st Wednesday every Month.—Route—To Halifax, and back to Falmouth.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

BRISIS..... | Lt. Com. J. Downey .. | 6 Decem. | 13 Dec. | 46N23½W | 7 Feb.  
 FLOYER..... | Lt. Com. W. Downey .. | 10 Jan. | \_\_\_\_\_ | \_\_\_\_\_ | 14 March.

LEEWARD ISLANDS—12 weeks: sails 3rd Wednesday every Month.—Route—To Barbadoes, St. Lucia, Martinique, Dominique, Guadeloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and Falmouth. Answers picked up by mail-boats and brought to St. Thomas to the packet.

LYRA..... | Lt. Com. J. St. John.... | 23 Novem. | \_\_\_\_\_ | \_\_\_\_\_ | 14 Feb.  
 SPY..... | Lt. Com. R. B. James... | 20 Decem. | \_\_\_\_\_ | \_\_\_\_\_ | 14 March.  
 CAMDEN..... | Lt. Com. J. Tilley..... | 8 Jan. | \_\_\_\_\_ | \_\_\_\_\_ | 28 March.  
 RENARD..... | Lt. Com. G. Dunsford.. | 17 Jan. | \_\_\_\_\_ | \_\_\_\_\_ | 1 April.

JAMAICA—14 weeks: sails 1st Wednesday every Month.—Route—To Barbadoes, St. Vincent, Grenada, JAMAICA, Crooked Island, and Falmouth.

NIGHTINGALE.. | Lt. Com. G. B. Fortescue | 12 Novem. | \_\_\_\_\_ | \_\_\_\_\_ | 18 Feb.  
 MUTINE..... | Lt. Com. R. Paule .... | 6 Decem. | \_\_\_\_\_ | \_\_\_\_\_ | 14 March.

MEXICO, JAMAICA, and HAYTI—18 weeks: sails 3rd Wednesday every Month.—Route—To St. Domingo, Jamaica, Belize, Vera Cruz, Tampico, Vera Cruz, Havana, and Falmouth.—[This Packet takes the Cartagena mail, which is sent to Jamaica by a Schooner, and returns to meet the regular Jamaica Packet.]

REINDER..... | Lt. Com. H. P. Dicken. | 20 Sept. | 6 Nov. | Port Royal | 24 Jan.  
 STAMMER..... | Lt. Com. R. S. Sutton.. | 20 Oct. | \_\_\_\_\_ | \_\_\_\_\_ | 28 Feb.  
 LADY M. PELHAM..... | Lt. Com. H. Carey ..... | 22 Novem. | \_\_\_\_\_ | \_\_\_\_\_ | 28 March.  
 OPOSSUM..... | Lt. Com. R. Peters .... | 20 Decem. | \_\_\_\_\_ | \_\_\_\_\_ | 25 April.  
 SEAGULL..... | Lt. Com. R. Parsons.... | 17 Jan. | \_\_\_\_\_ | \_\_\_\_\_ | 6 June

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks: sails 1st Tuesday every Month.—Route—January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.—September to December inclusive: to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

SKYLARK..... | Lt. Com. C. P. Ladd ... | 11 Oct. | 15 Nov. | Pernambuco | 28 Feb.  
 LORD MELVILLE..... | Lt. Com. C. Webbe .... | 8 Novem. | 17 Nov. | Madeira..... | 30 March.  
 PANDORA..... | Lt. Com. M. Croke ..... | 5 Decem. | \_\_\_\_\_ | \_\_\_\_\_ | 25 April.  
 GOLDFINCH.... | Lt. Com. E. Collier .... | 9 Jan. | \_\_\_\_\_ | \_\_\_\_\_ | 29 May.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

DUKE OF YORK—Lt. Com. W. James, 12th Jan. arrived from Leeward Islands.

ECLIPSE—Lt. Com. W. Forester, 15th Jan. arrived from Halifax.

FIREFLY, st. v.—Lt. Com. R. Baldock, 18th Jan. arrived from the Mediterranean.

LAPWING—Lt. Com. G. B. Forster, 20th Jan. arrived from Jamaica.

PIGION—Lieut. Com. J. Binney, 10th Jan. arrived from the Brazils.

SCORPION—Lt. Com. N. Robilliard, 11th Jan. arrived from Lisbon.

SHELDRAKE—Lt. Com. A. R. Passingham, 30th Dec. arrived from Jamaica.

SWALLOW—Lt. Com. S. Griffith, 15th Jan. arrived from Mexico.

TYRIAN—Lt. Com. E. Jennings, 12th Jan. arrived from Jamaica.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 62.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
19 Alfred	P. Martin	Guernsey	Rotterdam	Walcheren	10 Dec.	3 drowned.
20 Amelia		Africa	England	Africa	21 Aug.	Burnt by natives.
21 Sir J. Anderson		Quebec	Liverpool		18 Dec.	Abandoned.
22 Bolivar		Mirimichi		Mizen Head	29 Dec.	Abandoned.
23 Concordia		Hull	Rotterdam	C. Holland	9 Dec.	Run down, cw.svd.
24 Constitution	Bushby	London	Liverpool	Off Lizard	12 Dec.	Crew saved.
25 Columbia		Bermuda	Nassau		Jan.	Crew saved.
26 Dispatch		Montrose	Hull	Dunbar		
27 Dee		Ile Man	Liverpool	Burbo Bank		
28 Elizabeth		Stockton		Alboro'		
29 Elizabeth	Rashleigh	Quebec	Padstow	At sea	4 Dec.	6 drowned.
30 Eliza	Bunn	Cardiff	St. John's	At sea	4 Dec.	Abandoned.
31 Endeavour	Fendlow	Gool	Boston	Humber	19 Dec.	Crew saved.
32 Fauny	Of Sunderl.			Tees Bay	17 Dec.	
33 Flora	Of Whitby			Salt Scars	9 Dec.	
34 Hannah	Graves				29 Dec.	Crew saved.
35 Harriet	Hall	Whaler		New Zealand	14 Jan.	12 crew murdered.
36 John and Ann	Esson	Sunderland	Belfast	Wid.	8 Dec.	Crew saved.
37 Juno	Cottell	St. Peterabg.	Algoa Bay	Salt Scars	Oct.	One saved.
38 Kate	Of Yarmth.	Table Bay			2 Dec.	Crew saved.
39 Leda		Sligo	London	Tory I.	20 Dec.	Reported.
40 Lydia	W. Smith			Bowline I.	9 Dec.	
41 Lydia	Richards	V. D. Land	London	Fikland Isles	4 July	Crew saved.
42 Mars	Of Hull			Tees Bay	17 Dec.	
43 Mitchell	Of Sunderl.			Redcar Rks.	9 Dec.	
44 Mowbray	O'Brien	Quebec	London	St. Lawrence	17 Nov.	Crew saved.
45 Money, Wm.		St. Peterabg.	Liverpool	Hoy Sound	15 Dec.	
46 Naiad	Huller	St. John. N.B.	Liverpool	I. Tyre	31 Dec.	Crew saved.
47 Peggy	Spicer	Quebec	Plymouth	Anticosti	Nov.	
48 Percival	Galloway	Leith		Leith	31 Dec.	Crew saved.
49 Southwick		Dublin	Liverpool	Bangor B.	31 Dec.	1 drowned.
50 Stephus		Lishon	Newfddl.	At sea	Dec.	Foundered, cw. ad.
51 Swift		Hull	Hamburgh	Schilling	30 Dec.	Crew saved.
52 Times	Rowen	Sunderland	Scarboro'	E.C. England	20 Jan.	Crew drowned.
53 Transport			Louth	Tilney Head	20 Dec.	Crew lost.
54 William & Mary	Tilley	Seville	London	H. Head	31 Dec.	1 drowned.
55 Wellington	Smith	Hull	Jersey	Cross Sand	19 Dec.	3 drowned.

## ADMIRALTY ORDERS.

(Copy of a Letter from the Secretary of the Admiralty to John Pond, Esq.)

Admiralty, 10th January, 1835.

Sir,—I am commanded by the Lords Commissioners of the Admiralty, to acquaint you that they are satisfied that the intention with which the system of Annual Trials of Chronometers, and pecuniary premiums, was established at the Royal Observatory, has now had its full effect; and they therefore desire you will give notice to all concerned, that, at the conclusion of the approaching trial, such premiums will be discontinued; but, in consequence of this decision, their Lordships are pleased to permit each maker to send in four chronometers of his own construction, for the said trial, which is not to commence till the 1st of March.

Their Lordships being, however, still very desirous of advancing to the utmost perfection a machine which is of such value to navigation as a chronometer, they will occasionally reward any important improvement either in its principle or construction, by which it may be either so simplified as to be materially reduced in cost, without being deteriorated in excellence; or by which a greater uniformity of rate can be ensured, with more certainty, under all varieties of position, motion, and climate.

I am, sir,

Your most humble servant,

JOHN BARROW.

John Pond, Esq.  
Astronomer Royal.



**PRIZE CHRONOMETERS.**—We have observed a paragraph in the papers, stating that the third premium of the last annual trial at the Royal Observatory, has been awarded for Mr. Baker's chronometer. We can assure our readers, so far is this from being correct, that the premium has not yet been awarded to any maker.

### **Births.**

At Larch Hill, Moffat, on the 6th January last, the lady of Capt. Charles Hone, R.N., of a daughter.

In Wilton Crescent, the lady of Capt. Vernon Harcourt, H.M.S. Challenger, of a son.

At Torpoint, the lady of the Rev. C. H. Lethbridge, Chaplain of H. M. S. Victory, of a son.

At Bodmin, the lady of Capt. Wryford, R.N., of a daughter.

At Leamington, the lady of the Hon. Capt. Somerville, R.N., of a daughter.

On the 28th Dec. at Stoke, near Devonport, the lady of Captain John Wilson, R.N., of a son.

### **Marriages.**

Lieutenant George Caswell, R.N., to Miss Louisa Leigh, daughter of Commander Leigh.

At Trinity Church, Exeter, Lieut. John Langworthy, R.N., to Miss Mary Langworthy, both of Exeter.

At Chideock, by the Rev. R. Beadon, John Mitchell, Esq., R. N., to Miss Gase.

At Stonehouse, Lieut. A. Bradshaw, R.N., of H.M.S. San Josef (only son of Gen. Bradshaw), to Augusta Julia, only daughter of O. Newell, Esq. R.N., of the Royal Naval Hospital at Plymouth.

On the 14th Jan. at Kingston Church, Wm. Cooke, Esq., to Georgiana Gordon, youngest daughter of Captain Gourly, R.N.

Mr. G. H. Beaumont, Second Master of H.M.S. Actson to Miss Ellis, of Landport.

### **Deaths.**

On the 11th Jan. in Up. Grosvenor-street, London, Captain John Bastard, R.N. (1807), of Sharpham, Devon, and late M.P. for Dartmouth, aged 47 years.

On the 15th Jan. at Greenwich Road, Samuel Bromley, aged 56; 34 years a Surgeon in the Royal Navy, and 20 years Surgeon to the Kent Dispensary.

Suddenly, at Walmer, on the 12th Jan., Commander Richard Williams, R.N.; an excellent officer and most amiable man, leaving a widow to mourn her irreparable loss, and deeply regretted by a numerous circle of friends.

On 25th Dec. Lieutenant Pinkston Blackwood, R.N. (1829) aged 27.

On 31st Dec. at Somerson Park, Hants, Lieutenant Thomas Moseley, R.N. (1828) aged 37.

At Rochester, aged 40, Capt. James Marshall, R.N. (1832) whose improvements in naval gun-carriages have rendered him well known to all the service.

On the 6th Jan. in Cardigan Terrace, Chelsea, Commander James Bremer, R.N., aged 67, formerly of Portsea.

On the 5th Jan. in the 75th year of his age, Commander J. H. Sparkes, R.N. on the retired list, after a few hours' illness.

Lieut. S. Flinders, R.N., of Donnington, brother of Captain Flinders, who explored the western coast of New Holland.

On Christmas Day, Lieut. Frederick De Butts, R.N., second son of Major-General De Butts, Royal Engineers, aged 26.

Near Kingsbridge, Mr. Jacob Weymouth, Purser, R.N., aged 53.

On the 14th Dec. at Kingkerswell, Devon, Capt. Wm. Godfrey, C.B., R.N. (1809) aged 65.

Dec. 21, at his seat, Ring, Co. Cork, Daniel O'Hea, Esq., Lieut., R.N. He served many years under the immediate command of Lord Nelson.

At St. Austell, Lieut. David Price, R.N., aged 48 years.

In London, on the 5th January, Commander Arthur Grumley.

At Dinau in France, on the 3d Jan. Lieut. Henry Manning Twight.



METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.

## DECEMBER, 1834.

Month Day.	Week Day.	BAROMETER. In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	M.	29.29	29.39	47	48	38	53	S.W.	W.	7	7	Qp 1) (2	Bcql.
2	Tu.	29.48	29.74	46	50	40	52	W.	N.W.	7	7	Bcql.	Bcql.
3	W.	30.12	30.15	45	46	37	47	S.W.	S.W.	5	3	O.	O.
4	Th.	30.19	30.16	48	49	44	51	S.W.	W.	2	1	O.	Bc.
5	F.	30.20	30.17	42	48	35	48	S.W.	S.W.	1	2	Bc.	Bc.
6	S.	30.21	30.20	46	49	39	50	S.	S.W.	3	3	O.	O.
7	Su.	30.17	30.06	52	54	45	54	S.	S.W.	5	4	Or 2)	Or 3)
8	M.	30.27	30.36	42	42	40	43	S.W.	W.	5	6	Bmql.	Bcmql.
9	Tu.	30.57	30.49	35	42	31	43	S.W.	S.W.	2	3	B.	Bc.
10	W.	30.28	30.34	41	43	35	44	N.W.	N.W.	3	4	Bcmr 1)	B.
11	Th.	30.63	30.61	34	36	30	37	N.W.	N.W.	1	1	F.	O.
12	F.	30.49	30.42	35	40	31	42	S.W.	N.E.	2	1	O.	Otr 3)
13	S.	30.43	30.47	40	39	36	42	N.E.	N.E.	2	2	Bcm.	Bcm.
14	Su.	30.52	30.54	36	39	31	40	N.E.	N.E.	3	4	O.	O.
15	M.	30.61	30.59	38	40	30	41	N.E.	N.E.	3	3	Odr 1)	Odr 2)
16	Tu.	30.58	30.54	43	45	39	45	N.	N.W.	3	3	Opd 1)	O.
17	W.	30.12	30.12	42	42	39	45	N.	N.	6	7	O.	Opd 3)
18	Th.	30.32	30.34	40	43	38	44	N.	N.E.	6	6	Bm.	Bcm.
19	F.	30.43	30.41	38	43	31	44	N.E.	N.E.	5	3	Opd 2)	O.
20	S.	30.38	30.36	40	42	37	43	N.	N.	1	1	O.	O.
21	Su.	30.37	30.41	41	43	38	44	W.	N.W.	1	2	O.	O.
22	M.	30.54	30.52	37	37	36	39	N.	N.W.	2	3	Bcm.	Bmf.
23	Tu.	30.51	30.50	29	37	28	38	N.W.	N.W.	2	3	Bm.	B.
24	W.	30.50	30.44	31	33	26	35	W.	W.	3	3	Of.	Bc.
25	Th.	30.34	30.40	37	43	32	44	N.W.	N.E.	2	3	O.	O.
26	F.	30.56	30.55	38	42	35	44	N.E.	S.E.	2	2	O.	O.
27	S.	30.59	30.56	37	38	34	40	E.	N.E.	1	1	F.	F.
28	Su.	30.46	30.42	34	34	29	36	S.E.	E.	2	3	B.	B.
29	M.	30.19	30.11	36	42	29	43	S.E.	S.E.	3	3	Bc.	Or 4)
30	Tu.	30.00	29.96	50	50	47	52	S.	S.	5	7	Or 1)	Or 3)
31	W.	29.88	29.80	52	52	50	55	S.W.	S.W.	7	8	Or 1)	Qor 4)

DECEMBER—Mean height of Barometer=30.296 inches; Mean Temperature=40.1 degrees;  
Depth of Rain fallen=1.00 inches.

## Abbreviations used in the columns "Weather," and "Strength of Wind."

## WIND.

- 0 Calm.
- 1 Light Air.
- 2 Light Breeze.
- 3 Gentle Breeze.
- 4 Moderate Breeze.
- 5 Fresh Breeze.
- 6 Strong Breeze.
- 7 Moderate Gale.
- 8 Fresh Gale.
- 9 Strong Gale.
- 10 Whole Gale.
- 11 Storm.
- 12 Hurricane.

## WEATHER.

- b Blue Sky—whether clear or hazy atmosphere.
- c Clouds—detached passing clds.
- d Drizzling Rain.
- f Foggy—Thick fog.
- g Gloomy dark weather.
- h Hall.
- i Lightning.
- m Misty hazy atmosphere.
- o Overcast—or the whole sky covered with thick clouds.

- p Passing temporary showers.
- q Squally.
- r Rain—continued rain.
- s Snow.
- t Thunder.
- u Ugly threatening appearances.
- v Visible clear atmosphere.
- w Wet Dew.
- Under any letter indicates an extraordinary degree.

The Figures in the Weather Columns.—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.

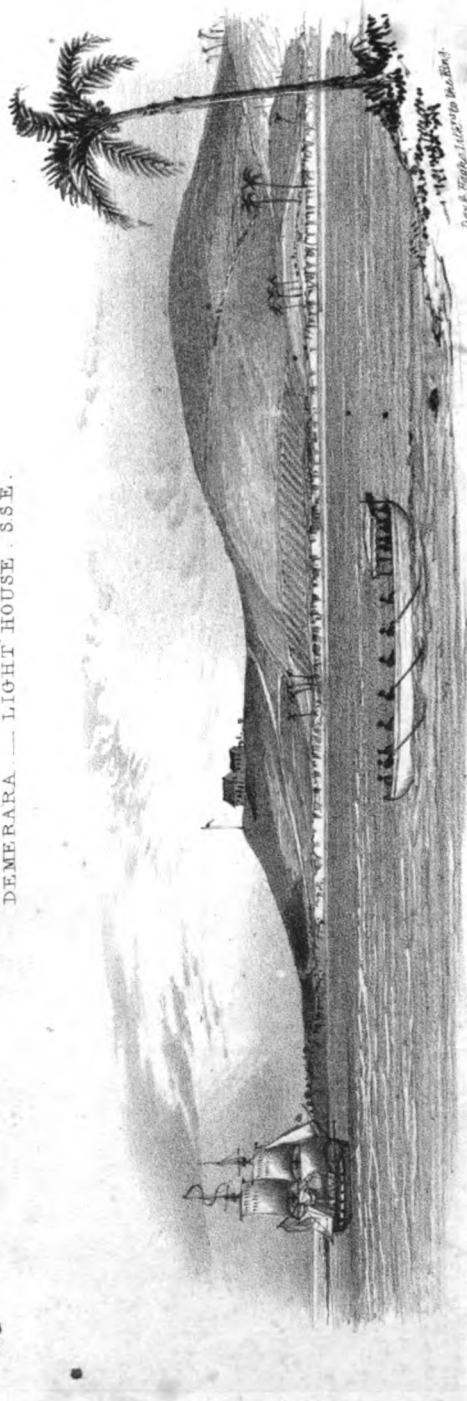








DEMERARA — LIGHT HOUSE. S.S.E.



LUCEA POINT JAMAICA.

*Published for the Proprietors of the Nautical Magazine by Simpkin & Marshall, 1834.*



# THE NAUTICAL MAGAZINE.

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MARCH, 1835.

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## HYDROGRAPHY.

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"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

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### 10. REMARKS ON THE COAST AND HARBOUR OF DEMERARA. *By Mr. H. Mapleton, Master of H.M.S. Arachne.*

IN sailing for the coast of Demerara from the northward, you must keep well to windward, as the general set of current along the coast is W. or W. N.W. about two miles an hour.

At the distance of twenty miles off shore, the currents vary according to the wind, and it may be observed as a general rule, that when there is any westing in the wind, a strong easterly set will be found along the whole coast; and, that when the wind inclines to the eastward, the set will then be westerly.

The trade-wind blowing between N.N.E. and S.E. causes the westerly set usually found; but, as the wind occasionally veers to the northward, and even so far as N.N.W., particularly in the winter months, the easterly current above alluded to sometimes exists.

The flood-tide sets along the coast S.W. and the ebb N.E.; their influence is not felt beyond eight miles off shore.

As the passage from Demerara to Berbice, or other ports to windward, exposes you to the general westerly current, it is well to keep close inshore, and take advantage of the inshore-tides; and, should the winds be light, it will be necessary to anchor with the flood.

Cruising to windward in the *Arachne*, we found the trade-wind incline so much to the northward as to enable us to lay up east and E. by N., when we found the easterly set, as before mentioned, running at least two knots and a half an hour. This, however, is not common, and ought not to be calculated upon in making a passage to windward, unless the wind, as previously noticed, enables you to lay E. by N. or east.

The colour of the water along the coast, to nineteen miles off shore, is thick and muddy, and on many parts of it there are very dark patches, apparently shoals, but the soundings on them are the same as the water surrounding them.

Off the mouths or entrances of the different rivers, the bottom is hard, but in general along this coast it is mud.



In working to windward, stand no nearer the shore than four fathoms, nor off beyond nine. You will then be enabled to take advantage of the regular ebb and flood inshore.

*Appearance of the Land on the Demerara Coast.*

Nine miles to the eastward of Cocobano Point are five or six single cocoa-nut trees; ten miles farther to the eastward are two rows of the same trees, appearing like white cliffs.

Twenty-six miles to the eastward of the river there is a hillock, formed by a large cotton tree. This towers above the low land, and forms like a sugar-loaf; it is called General Murray's tree.



General Murray's Tree, S.W. by S. 12'.

Forty-six miles to the eastward of the river are two hillocks close together; they also form like sugar-loafs, and shew themselves above the low land.



Two Cotton Trees, S. S.W. 11'.

Vessels on the coast of British Guyana, and bound to Demerara, will clearly make these objects, as they alone alter the appearance of the low land.

Crab Island, at the entrance of the river Berbice, will point this part of the coast out, there being no other island between Demerara and Surinam.

Fourteen miles to the eastward of Berbice, there is a building close down to the water; its sides and top are white, and a little to the westward of it is a deep gap in the land.

Fifty miles to the eastward of Berbice, there is a patch of burnt trees, having the appearance of vessels at anchor.

The intermediate coast between these objects is low; patches of trees, and a few dispersed houses, alone altering its appearance.

There is no danger, if the lead is kept well going.

Unless standing in for a harbour or river, do not go into less than five fathoms, as there are many banks but little known inside these soundings. There is anchorage along the whole coast, but be careful, if you anchor off Berbice, to have sufficiently deep water to prevent touching the bottom between the hollows of the rollers, which break.

The pilotage going in and out of Demerara being so heavy, it is advisable to anchor outside, being four or five miles off shore; and Cocobano Point bearing W.S.W. six or seven miles, is the best anchorage.

*The Harbour of Demerara.*

This harbour is formed at the entrance of the river of the same name; Point Cocobano, which has a lighthouse on it, being the eastern point of the harbour.

It is a bar harbour; the bar running north and south from Point Spirit, which is five miles to the eastward of Cocobano Point.

At high-water you will have on it fifteen feet; high springs 16½ and 17. The rise and fall is 9 feet.

*Directions to Sail for the River.*

Being to windward, and running for the river, keep at the distance of four or five miles off shore, in four and a half and five fathoms. Sixteen miles to the eastward of the river are two very remarkable rows of cabbage trees; three



miles to the westward of them are seven single ones. These trees have the appearance of white cliffs.

Having passed these, stand on with the same soundings until you see Cocobano Point, which is low, and the northernmost point of land, and has a lighthouse on it. Steer about west, until the lighthouse bears S. S.W.; then steer S.W., until the lighthouse bears south; then steer S.W. by S., until it bears S. by E. You will then have the river and ships open; steer for the lighthouse, and you will have a white buoy on your left, and a black on your right. Your anchorage is abreast of the lighthouse; it will bear E.  $\frac{1}{4}$  S.; at low-water you will have 17 feet. The flood runs two knots and a half, and the ebb three knots an hour. The holding-ground is good, being mud and clay.

In working out, you must not bring the lighthouse to the westward of S.W. by W. or to the southward of S. by W.

The water that is generally used is rain-water. In the dry seasons it would be necessary for a ship in want of water to go fifteen or twenty miles up the river, where it is quite fresh and good.

The pilots for this harbour are very good, and keep a sharp look-out for vessels coming down, picking vessels up fifteen and twenty miles to windward of the river.

To the foregoing valuable directions for Demerara, by Mr. Mauleton, we annex the following important observations by Com. Richard Owen:—

It is high-water (spring-tides) at George Town at 4 h. 45 m. P.M. Rise at ordinary springs, nine feet; at neaps, eight feet. The tide continues to flow on the surface 1 h. 10 m. after high-water, and during spring-tides runs about three knots per hour at the anchorage, in the dry season, from July to November.

The distance from George Town to the Sandhills up the river is about twenty-five miles and a half, by Captain Owen's survey. In going up to the Sandhills, keep the eastern shore close on board, after passing the flats off Providence, until abreast of Howereroenie creek; then haul over towards the point on the west shore above Glasgow.

The lighthouse in the sketch by one of Captain Owen's officers is in lat.  $6^{\circ} 49' 20''$  N., long.  $58^{\circ} 11' 20''$  W., variation  $5^{\circ} 43'$  E., by Captain Owen's observations.

## 11. LUCEA HARBOUR, *North side of Jamaica.*

The best guide for knowing Lucea from the offing is the Dolphin Head, a remarkable mountain situated nearly in the middle line of the island, between Lucea on the north shore, and Bluefields on the south; it is so named from its resemblance to the vertical fall of the head of the Dolphin.

Excepting Port Royal, Lucea is the largest and most commodious harbour in the island of Jamaica. A reef extends to some distance on each side of the entrance to the port. To sail in, bring the middle of the entrance to bear S. by E. or S. S. E., and steer in on that course until past the fort, when anchorage may be taken where most convenient, from seven to four fathoms. Throughout the harbour, the bottom is formed of soft clay, and there is four fathoms water within two cables' length of the shore next the town. Under Barbary Hill the water is deep; on the east side it is steep to the cliffs.

In working out, do not stand too close in to the shore from the fort towards the church; a frigate once grounded in doing so, and had some trouble in



getting off. There are no hidden dangers; and the channel of entrance is so wide and deep, that the eye alone is sufficient to lead in; and a vessel may either go out with the land-wind, or work out with the sea-breeze, with equal safety.

There are two rivers, named Riley and Dundee, which fall into the harbour on the southern shore, between the Dundee estate and the rock called Gibraltar. The watering-place is at the "Well," on the eastern side of the town; the casks are landed upon Malcolm's Wharf, and rolled up (a few hundred yards) to the well; but this being private property, it is requisite to obtain permission for the purpose.

The town is inconsiderable, but there are many villas pleasantly situated in the neighbourhood, inhabited by the respectable classes, who have always been noted for their hospitality to strangers. The market is well supplied.

A tradition is preserved of a very singular phenomenon having occurred at this place. It is said that the water of the harbour once suddenly quitted its bed, and the sea across the entrance to have appeared like a vast black wall! This happened during a hurricane or an earthquake, and lasted but a very short time, when the sea from without rushed in with such impetuosity as to inundate all the level shore.

The canoe represented in our sketch of Lucea point, is one of those well known boats called the Lucea passage canoe. These vessels are formed of a single tree, hollowed out, and are large enough to carry from 90 to 100 tons weight. The Down tree and Bombax (silk-cotton tree) are those generally used to make them. Our worthy correspondent, from whom we received the original sketch, has made the passage in one of these canoes, under sail, from Montago bay to Lucea, a distance of twenty-two miles, in an hour and forty minutes.

## 12. THE PORTLAND ROCK.

### *To the Editor of the Nautical Magazine.*

Sir,—As the value of your Nautical Magazine depends on the accuracy (and on that alone) of the observations and directions inserted in it, I beg leave to offer to your notice the following remarks respecting the Portland Rock; they were made in March, 1833, together with four views of the rock. By comparing the following results with that given in your number for November, 1834, you may be enabled to diminish rather than increase the uncertainty respecting its situation, and allow to it a position where it will be found without either perplexity or anxiety.

Portland Rock is quite barren; its greatest extent under two cables' length. It is elevated from fifteen to twenty feet above the level of the sea; is quite clear within three cables' length, excepting the north-west side is a shoal spit, best anchorage, rock east three-quarters of a mile, in eight or ten fathoms, fine sand.

Geographical position of the highest part of the rock :—

Latitude sun's meridian Alt. . .		17° 7' 27" N.
Near the Meridian.	{ Seven Alts. . . . .	A.M. 17° 7' 30"
	{ Six . . . . .	A.M. 17° 7' 25"
	{ Eight . . . . .	P.M. 17° 7' 19"

Mean Latitude 17° 7' 25" N.



Longitude west of Port Royal Dockyard by five chronometers: three days elapsed since compared with mean time at that port:—

A .....	0° 36' 19" W.
B .....	0 35 37
C .....	0 36 54
D .....	0 36 34
E .....	0 36 13

Mean Longitude 0° 36' 19" W.

West of Greenwich, perhaps, or near 77° 25' 19"

I am, Sir, with much respect,

Your obedient humble servant,

Dec. 10, 1834.

JOHN FERRON.

13. THE PEDRO CAYS. *From the Remarks of H.M.S. Winchester, Captain the Hon. W. Wellesley, R.N.*

*The Portland Rock*

Is elevated from fifteen to twenty feet above the level of the sea; the Winchester rounded it on the south side, and brought it to bear east, carrying from ten to fourteen fathoms water, on a sandy bottom, with pieces of coral. In this bearing a vessel might anchor with safety in moderate weather.

We made the Latitude..... 17° 7' 23" N.  
..... Longitude ..... 77° 25' 20" W.

which is only 20" different from De Mayne's meridian distance reduced; he having considered Port Royal in 76° 52' 38" W., whilst we used 76° 49' 00" W.

We stood from the Portland Rock to the S.W., carrying from twelve to fifteen fathoms, and having these soundings farther to the southward than laid down by the chart. We saw the Eastern Breakers, so called by De Mayne; they appeared to have an extent of about two cables' length, with two small rocks above water, and were breaking in all quarters.

Near these the water shoaled to eight fathoms and a half; and when they (the rocks) bore N.N.E., distant four miles, we only had seven fathoms and a half, the Pedro Keys just then coming in sight. Steering W. by S., we soon after had no bottom, having got into the Indent, as shewn in De Mayne's chart, so that the shoalest water we had must have been very near the edge of the bank.

We did not go nearer than a mile and a half to the eastward of the Pedro Keys, and had no soundings with the hand-lead; but the chronometers gave the centre of the middle key 77° 47' 13" W., or 58' 13" west of Port Royal.

*The South-West Breakers.*

They are dangerous, and require a strict look-out. The sea breaks over two small rocks, not more than three feet above the level of the sea, constantly, but so irregularly, that from the deck of a vessel, and in a moderate breeze, a high breaker might not be distinguishable oftener than once in five minutes, and the ordinary ones would be taken for waves. In the Winchester, with a good mast-head look-out, we passed within three miles of these, without their being discovered.

On the west side they are bold to. Having stood to the northward on the



bank, passing them at the above-named distance, we carried 12, 11, and 10 fathoms for six miles; when the breaker bore S.S.W. about that distance, we tacked, and stood for it; and when about three miles distant, the soundings became irregular, varying from 11 to 8½ fathoms.

We were at noon as near to it as one mile, bearing east, and we had not less than nine fathoms.

The whole breaking part does not extend more than one, or one and a half cable's length; but it is to be supposed there is foul ground to the eastward of it for a mile or so. The ocean colour of the water about it was remarkable even in soundings, and I should be for this reason cautious in approaching it to the eastward.

Latitude of South-West Breaker ..... 16° 47' 56" N.

Longitude of Ditto ..... 78° 10' 32" W.

or 1° 21' 32" west of meridian of Port Royal, which is nearly a mile to the eastward of De Mayne's reduced.

#### 14. COCKBURN SOUND, AUSTRALIA.

The following account of the buoys in Cockburn Sound has been extracted from the Perth Gazette, forwarded to us by the Surveyor-General, Lieut. J. S. Roe, R.N.

**THE CHALLENGER BUOY**, painted black, is moored in six fathoms water, about twenty-five yards to the north-east of the Challenger rock, which is nearly awash, and is situated near the north-western termination of Sea Reef, extending a mile and a quarter in a north-west direction from the north-west point of Garden Island. This buoy is visible from a ship's deck, through a spy-glass, at the distance of five or six miles, and is a principal object to be made out by a ship approaching the channel between Carnac and Garden Islands.

**STAGS BEACON**, painted black, is placed about three furlongs in the direction of S. 65° E. (magnetic) from the Challenger buoy, in five fathoms water, about five yards to the N.N.W. of a small rock, with only six or seven feet water upon it. This rock is the northernmost of many which rise out of five and six fathoms water, and from a reef called the "Stags."

**MID BEACON**, painted white, is situated opposite to the Challenger buoy, in nearly four fathoms water, and in a line with the outer small island off the south point of Carnac, towards which it is intended shortly to remove it about eighty yards, into three fathoms on the southern edge of Middle Shoal. Mid Beacon will then float at the distance of 100 yards to the S.S.W. of eight and nine feet water on the Middle Shoal.

**FLAT LEDGE BEACON**, painted white, is placed in three fathoms and a half water, about 130 yards N.W. by W. from the Flat Ledge, a small reef, covered by only six feet water. This beacon will be shortly removed into three fathoms, about 130 yards in a south-east direction, to the south side of the Flat Ledge.

A ship may safely enter Cockburn Sound by passing to the north of the Challenger Buoy and Stags Beacon, and to the south of the Mid and Flat Ledge Beacons; steering S.E. by E. ¼ E. in Mid-channel. This course may be prolonged until the Flat Ledge and Mid Beacons are brought in a line; then haul up to the east, until the largest rock of the Stragglers, appearing as two small hummocks, comes in sight round the north-east point of Carnac. This will clear the north-east spit, which extends three-quarters of a mile from the north-east point of Garden Island, and a course may then be shaped for any part of the Sound.



To seaward of the Challenger, the principal dangers to be avoided are situated on the Five-fathoms Bank, and consist of Seaward Reef, a small patch, six or seven feet under water, about three miles and a quarter W. b. N. (magnetic) from the north end of Carnac; and the Casuarina Shoal, with one and two fathoms upon it, about two miles and a half W.  $\frac{1}{2}$  N. from the north-west point of Garden Island. Farther to the south lies Coventry Reef, a small patch of rocks just awash, bearing S.  $18\frac{1}{2}^{\circ}$  W., and distant eight miles from some remarkable sand-hills on the coast near the middle of Garden Island, called "Sandown."

LAMBERT CHANNEL, through which H.M.S. Alligator got to sea from Owen's Anchorage on the 19th of December, is a valuable outlet to sea or to Cockburn Sound, from Owen's Anchorage or Gage's Roads, without passing round Rottenest Island, which, during strong northerly winds that would distress a ship in either of these situations, may be considered almost impracticable. In the absence of means at the present time for buoying this channel, it may be found by keeping the summit of Buckland Downs a very little open to the south of the Mewstone, in the direction of N.E.  $\frac{1}{2}$  E. and S.W.  $\frac{1}{2}$  W. (magnetic.) This mark will carry a ship through, in not less than four fathoms and about 100 yards to the northward of a small rock four or five feet under water, which is detached about a cable's length to the north-east of the breakers on the western bank, and is called the Passage Rock. At a cable's length to the north-west of it is a small patch of two fathoms and three-quarters. A ship must pass between them in four to five fathoms water, and then haul up to the W. by S. to avoid a small shoal spot with  $3\frac{1}{2}$  upon it. The soundings will then quickly deepen to 7, 5, 6, 8, and 9 fathoms, and a course may be shaped to pass half a mile to the westward of the Challenger Buoy. This channel being narrow, and not yet buoyed off, should not be attempted by a stranger without previously securing a boat or conspicuous cask near the Passage Rock, and another near the patch of two fathoms and three-quarters to the north-westward of it.

MEDINA BEACON, painted red, and the ALLIGATOR BEACON, white, point out the channel into Owen's Anchorage. The former is placed in four fathoms water, on the northern edge of the Parmelia Bank, which extends from Woodman's Point to Carnac; and the Alligator Beacon is in five fathoms water, on the southern spit of the Success Bank. They are nearly a mile apart, in a line between Fremantle and the Haycock on Garden Island, with seven to nine fathoms water between them. A ship should steer between them, and, after passing over a bank of three fathoms water, bring up about a mile from the shore, and nearly the same distance to the south-eastward of a beacon which has been placed in two fathoms water, at fifty yards to the westward of the Fish-rocks. Should this beacon disappear, the Fish-rocks may be found by keeping the largest Seal-rock on with the south end of the Mewstone, and bringing the extremity of Rous' Head in a line with a conspicuous large sand patch on the coast to the northward.

The Snapper Buoy and Pointer Beacon, as represented in the printed chart of 1831, have not been laid down, in consequence of the channel between Carnac and the Western Bank, for which they were intended as leading marks, having been found too intricate for general use, until means are available for marking off some of the principal dangers in it. The same cause has superseded the present necessity for placing the Basket Beacon, at Second Head, and the Brothers Beacon, at Beacon Head; nor has it been considered necessary at present to place the Spit Beacon off the north-east point of Garden Island, the foregoing directions for avoiding it being amply sufficient for keeping a ship out of danger in that quarter.



## 15. RATING CHRONOMETERS AT THE MAURITIUS.

*Notice.*

Public notice is hereby given, that from the 25th of this month, a signal will be made from the Tower Observatory at Port Louis, on Tuesdays and Fridays, denoting the exact moment of one o'clock, mean time at Port Louis.

Facing the harbour, will be seen on the white ground of the observatory, and about one-third from the top, a large black sphere, which, by a communication from the inside, will disappear exactly at one o'clock.

It will only be necessary, therefore, for regulating chronometers, to observe either with or without a telescope, the exact moment when the black sphere disappears.

To give the better notice, a white and blue flag will be hoisted on the tower one hour before the time, on the above-mentioned days, and which will be lowered about five minutes before one.

It being almost impossible invariably to avoid error, a white flag will be hoisted on the tower after the observation, provided by any chance a mistake has been committed.

The above being sufficient for ascertaining the true time and rates of chronometers, further notice is hereby given, that, after the 30th of this month, no chronometer will be received into the observatory, without their being paid for according to the following scale, to cover the current expenses of that establishment :—

*Scale.*—For every chronometer remaining not more than three weeks in the observatory, £1. 0s. 0d.

For every chronometer remaining a greater time than three weeks, per week, £0. 2s. 0d.

Port Louis, Mauritius,  
19th April, 1833.

JOHN AUGUSTUS LLOYD,  
His Majesty's Surveyor General.

*Avis.*

Le public est informé qu'à compter du 25 courant, un signal sera fait à la tour de l'Observatoire du Port-Louis, tous les mardi et vendredi, marquant l'instant de "une heure," tems moyen au Port-Louis.

En face du Port-Louis, on verra sur le fond blanc de l'Observatoire, à peu près à un tiers du sommet, une grande sphère noire, laquelle, par une communication intérieure, disparaîtra exactement à une heure. Il sera donc seulement nécessaire d'observer avec ou sans télescope, l'instant de la disparition de la sphère noire pour régler les chronomètres.

Pour fixer plus facilement l'attention, un pavillon blanc et bleu sera hissé sur la tour, une heure avant le tems, aux jours ci-dessus indiqués lequel pavillon sera amené cinq minutes avant une heure.

Comme il n'est pas possible d'éviter d'une manière invariable les accidens ou les erreurs, un pavillon blanc sera hissé sur la tour, après l'heure d'observation, dans le cas où, par quelque circonstance, il aurait été commis une erreur.

Ces moyens étant suffisans pour connaître l'heure vraie et régler les chronomètres, on donne avis qu'à partir du 30 courant, aucun chronomètre ne sera reçu à l'observatoire sans qu'il soit payé la rétribution qui suit, pour faire face aux dépenses courantes de cet établissement, savoir :—

Pour chaque chronomètre déposé seulement pendant trois semaines, £1.

Pour chaque semaine en sus des trois semaines, pour chaque chronomètre, 2 shillings.

Port-Louis, Maurice,  
le 19 Avril, 1833.

JOHN AUGUSTUS LLOYD.  
Ingénieur Civil et Inspecteur Général.



## ORIGINAL PAPERS.

BIOGRAPHICAL ACCOUNT OF JOHN HADLEY, ESQ., V.P.R.S., THE  
INVENTOR OF THE QUADRANT, AND OF HIS BROTHERS GEORGE  
AND HENRY.

(Continued from page 22, No. 35.)

At the time when Hadley made the present of his telescope to the Royal Society, he was already a member of the council. He first obtained this distinction in 1720, and, with the exceptions of 1721, 1723, and 1725, he continued for the remainder of his life to be annually re-elected to it. In 1726 he was one of the committee appointed to examine and report upon the new instruments which had been procured by Dr. Halley for the observatory at Greenwich; and it may be remarked, that he was not himself present\* in the council which selected him for this trust. On the 12th of February, 1728, he was sworn in to the office of Vice-President. There are only one or two notices of his re-appointments, but in all the papers which he subsequently contributed to the Philosophical Transactions he is uniformly designated as V.P.R.S. In the title prefixed to his account of the aurora-borealis, in the 34th vol.,† he is called simply F.R.S. Now, this was read Dec. 8, 1726, after the nomination of officers on St. Andrew's day, and it may therefore be fairly concluded that his first appointment was of a later date. Sir Isaac Newton died in March, 1727, and Sir Hans Sloane,‡ who succeeded him in the chair, was the personal friend of Hadley. He must therefore have been happy in appointing so eminent a man for one of his Vice-Presidents; and it is possible that he did so without waiting for the anniversary of the Society on the following 30th of November.||

Hadley soon after this period published an account of the quadrant, with which his name continues, and we may hope will long continue, to be gratefully united. So much has already been said on the history of this valuable instrument, that it will be sufficient now to give merely a short statement of the results to which the investigation led. It has been shewn that the reflecting quadrants invented by Hooke were deficient in what gives the peculiar excellence to Hadley's. Newton was undoubtedly the

\* He was almost constantly appointed one of the annual auditors of the accounts of the Society, and very frequently also nominated when not at the meeting of the council, when the business was referred to him.

† P. 146.

‡ Sir Hans Sloane had at one time a house in Bloomsbury, which, in the beginning of the eighteenth century, was one of the first squares in London. Proximity of residence may have originally assisted in producing an intimacy between him and the Hadleys.

|| Sloane was himself a Vice-President before he was raised to the chair; he had therefore to fill up the place which he had previously occupied.



first to supply this deficiency; but there appears to be no reason for thinking that his ideas on the subject had ever reached Hadley's knowledge; no trifling proof of genius is therefore to be derived from his thoughts having independently followed, in this instance, the same course with Newton's. The original invention has likewise been claimed for Godfrey, of Philadelphia; but it has been shewn that Hadley's quadrant was completed in the summer of 1730, while that of his competitor was not made till the following November; and that he communicated the description of it in May, 1731, whereas the account sent to Dr. Halley from America was not even written till a twelvemonth after, (in May, 1732.) The various stories in which it has been repeatedly asserted that Hadley surreptitiously appropriated the other's discovery, have been severally examined, and refuted; but, as we are now considering our author's individual character, the following extract may not be superfluous. A letter\* of his to Desaguliers, in 1734, has the following postscript:—"I imagined the plate with a small hole† to exclude foreign light in telescopes, to have been my own first thought, but find Mr. James Gregory had had the same before." Surely this is not the language of an uncandid man, who was ready to assume what did not justly belong to him; and if the present instance is comparatively trifling, it shews, on that very account, how scrupulously careful he must have been, not to invade the rights of others who might have anticipated his inventions.

One of Hadley's aunts was married to Admiral Herbert; ‡ this may in some measure have fortunately directed his attention to nautical astronomy: and two more of his papers in the Philosophical Transactions, though they do not strictly belong to the history of his quadrant, must now be noticed as having evidently emanated from the same train of thought.

The horizon is often too indistinct for observing altitudes at sea, and this inconvenience is said to occur oftener in calm than in rough weather. Refraction, likewise, always considerable, and frequently irregular at low altitudes, combines with other impediments to interfere with direct observations of distance from the horizon. Hadley therefore imagined that these evils might be remedied by attaching a spirit level to the plane of the quadrant. This in itself was not new; but, in his use of it, he adopted an idea which has been admitted by practical astronomers of eminence in the present day. He saw that cases might occur, in which attention to the precise adjustment of the instrument might be less advantageous than a correct estimate of its errors, which might be allowed for. His glass vessel, therefore, containing the bubble,

\* Desaguliers' Appendix, p. 285.

† He terminated his eye-pieces with wood, or metal, turned in a convex form on the outer side, and in the centre of this covering there was a minute aperture (not larger possibly than  $\frac{1}{10}$  of an inch) to which the eye was to be applied.

‡ He was created Earl of Torrington by King William the Third, in 1689.



was to be formed in the figure of a circular arc, (the concave side being uppermost,) and it was to be furnished in the middle with a stop-cock, which, being turned at the moment of observation, would prevent any further motion in the fluid that had previously a passage through it. By this means, a correction might be made from a graduated scale for the deviation from a perpendicular position, in which the upright side of the quadrant ought to be held. This paper was read in January, 1734, and the thanks voted to Hadley were accompanied by a request that he would "oblige the public with it," which was accordingly done in the 38th vol. of the *Philosophical Transactions*.\* In May, 1736, he communicated to the Royal Society a further improvement in the construction of the level; but, though he was thanked for "these curious and useful contrivances," his second paper was not printed in the *Transactions*, and the plan does not appear to have been adopted in general practice. The lower side of the quadrant was to be horizontally fixed on the top of a staff, and consequently the object-end of the telescope had to move through the limb of the instrument, which is not so good a construction as when the eye-glass is on the circumference.

The second paper to which we have alluded, occurs in the 39th vol.† of the *Philosophical Transactions*, and is entitled, "A proposition relating to the combination of transparent lenses with reflecting planes." It was presented to the Royal Society in January, 1735, and Hadley says in it, that, "having proposed the using of a telescope, with the instrument for taking angles, it gave me occasion to consider the effects of the combining several kinds of telescopes with reflecting planes." No advantage, however, could be practically derived from the particular combination which in the present instance was contemplated. The angular distances were to be measured by the motion of a reflecting plane, which conveyed the rays without any second reflection to the telescope. So far light might be saved; but the particular construction which, for this purpose, was to be given to the telescope, more than counterbalanced any advantage of this kind. The eye and object-glasses were to be taken of the same focal length, and such a combination would only invert the image, without adding any thing to the optical angle under which the object might be seen by the naked eye. Hadley himself states other objections which would be inherent in such an instrument, and only describes it as a subject of speculative curiosity. Indeed, if he had not distinctly said so, it might have been easily collected from the very title which he prefixed to his paper; for his specification is the simple enunciation of a theoretical truth. The proposition indeed is regularly demonstrated, and Hadley must not be considered as merely an ingenious

\* P. 167.

† P. 185.



mechanical contriver. He was a man of real science : in publishing his account of the quadrant, he gave a mathematical investigation of the principles on which it was constructed, and the calculations which he made for reflecting telescopes must have been the results of scientific inquiry.

The only contribution to the Philosophical Transactions which remains to be mentioned as having been made by Hadley, is one which derives its principal interest from his being the author of it. It occurs in the 34th volume,\* and contains a plain account, without any discussion, of what he observed during an appearance of the aurora-borealis on the 8th of October, 1726. He speaks of his observations being made a "few minutes directly north from London." This would agree very well with his having witnessed the phenomenon at East Barnet; and the conjecture is confirmed by a short note found in a memorandum-book of his father: it mentions the appearance on this same night at that very place. Hadley likewise, in 1722, had made a communication, although it was not published, on the aurora which was seen on the 19th and 20th of March in that year.

It has been remarked,† that "the life of a scholar seldom abounds with adventure;" and probably few events could disturb life's even course for a man of fortune who devoted himself to the pursuit of science; but such few particulars as can yet be found to have been connected personally with Hadley must now be noticed.

He is incidentally mentioned in Smith's Optics,‡ as "a very ingenious gentleman of Essex." This forms the whole of what has been generally known with respect to his local connections, but it gives a very imperfect idea of them. There can be little doubt that when the paragraph was written he was residing in that county, probably in or near Colchester, where the family had property; but it is necessary to consider the period to which this time belongs. Smith's book was not published till 1738, but the part here quoted was taken from the papers which Molyneux, after his appointment to the admiralty in 1727, had placed in the author's hands. Now, Hadley's father died in the beginning of 1729, and after that period we have no reason to imagine that he continued at a distance from the residence of his family, and from what had now become his own principal estates. In the election for the county of Herts in 1734, he voted for Sir Thomas Saunders Sebright and Mr. Plumer, in opposition to Mr. Cæsar. The poll-book, probably in every instance, but certainly in general, records the "abode" of those who did not live where their freeholds were situated; but Hadley's vote is inserted among the others from East Barnet, without any note of his not being resident there.

\* P. 146.

† Goldsmith's Life of Parnell.

‡ Sec. 782.



When Hadley's father pulled down his residence near\* the church at East Barnet, he built Usage House, which appears to have been on the north side of the woods of that name. In an account of the property drawn up in 1773, there is mention of a place "on which formerly stood a large house, called Usage House," but when it was taken down has not been ascertained. In the same paper, the house in which John Hadley resided is described as a mansion situate on Enfield Chace, and near Bohun Gate, containing seven rooms on a floor; with stabling for ten horses, three coach-houses, &c., and a large garden of about four acres partly inclosed with brick walls. This was most probably the place formerly called Monken Frith House,† which stood near the late Sir Simon Clarke's seat at Oakhill. Hadley likewise had a house in London, and there is reason, as will be hereafter shewn, to conclude that it was in Bloomsbury, and therefore not improbably the same in which his father had resided.

In June, 1734, Hadley married Elizabeth, daughter of Thomas Hodges, Esq., F.R.S., who had been Attorney-General for Barbados in the reign of Queen Anne, and was grandson of Dr. Hodges,‡ Vicar of Kensington, and Dean of Hereford. Her fortune at marriage was £3,000, but she inherited property from a cousin, (Joseph Hodges,) so that altogether she brought her husband £5,000. The trustees of her settlement were, her younger brother, Colonel John Hodges,|| and Sir Hans Sloane. John Hodges is the name of one of the three witnesses subscribed to

\* Hadley's father, in his memorandum-book, has the following notice:—"Oct. the 10th, 1683, Ric. Sleath and I measured the new walk to the church 6 foot wide, in the farm 56 poles, in my grounds 74, whereof 35 [in] the hanging field and parson's meadow.

† The property called Trevor-Park, purchased some years ago by Sir S. Clarke, probably once belonged also to the Hadley family.

‡ See a letter of the late Professor Martyn, of Cambridge, in the *Gent. Mag.* vol. 96, part 1, p. 291. He was himself descended from Rhoda, the daughter of Dean Hodges; but there is a difficulty which seems to militate against his account of the family. The Dean had a son, Dr. Nathaniel Hodges, who distinguished himself as a physician during the great plague in London of 1665. Anthony Wood gives a life of him, and Dr. Bliss, in his edition of the *Athenæ Oxonienses*, has introduced some manuscript additions of Wanley, describing the tablet erected to his memory in St. Stephen's, Walbrook. Dr. H.'s arms are said in this notice to be, Or, a crescent sable and chief of the second. Now, these are different from what are engraved on Mrs. Hadley's tomb, but the implied difference is founded in mistake. The tablet is high, against the north wall of the church, and the position of the pews makes it necessary, in looking up at it, to stand almost immediately under the stone. The arms are on a rounded protuberant shield, so that the lower crescent is only to be distinguished from below; but, by mounting a ladder, any one may see that the upper part, which gave Wanley the indistinct idea of a chief sable, contains the exact bearings which prove the identity of the family.

|| The *London Magazine*, 1737, p. 54, records the appointment of "Capt. Hodges to succeed Colonel Churchill as Colonel of a company in the second regiment of foot guards." He married Sarah, the only daughter of Sir Richard Fowler, Bart., whose wife was niece of Sir Hans Sloane, (*Collins's Baronetage*, vol. v. p. 104.) This took place in 1737, according to the *Historical Register*, as quoted in *Faulkner's Chelsea*, vol. i. p. 337. There is in the *British Museum* a joint note from John and George Hadley, requesting Sir Hans Sloane to procure admission for a patient to an hospital. It is dated St. Julian's, Sept. 27, 1741, and has a postscript, saying "the Col. and his lady send their duty. They and the little ones are well." St. Julian's is near St. Alban's, and it may therefore be conjectured that Colonel Hodges was residing at this time in Hertfordshire, at no great distance from his brother-in-law.

Mrs. Hadley's elder brother was named Thomas. Hadley, in his will, which was executed in April, 1742, speaks of him as then dead, and having left a family; but nothing more has been met with concerning him.



George Hadley's will in 1721; if it belongs to the same person, it indicates an old intimacy with the family; and there are several notes in the British Museum to Sir Hans Sloane, which all join in establishing the great interest which he took in their welfare. One of these is written by John Hadley himself, and contains a communication which in itself is not unworthy attention. It was written Sept. 8, 1724, when he had so recently presented one of his reflecting telescopes to the Royal Society, and when the instrument must have been an object of great curiosity. There can be little doubt that Sloane had requested him to exhibit its powers to M. de l'Isle, and that Hadley in his answer intended to intimate a compliance with his wishes. On other occasions, indeed, as well as on this, he appears to have kept up considerable intercourse with scientific foreigners. 1735, Feb. 20, "Dr. Mortimer communicated and read" to the Royal Society, "an extract of the contents of some letters received from Mons. Godin, since his return to Paris; wherein, among other things, he says he produced Mr. Hadley's instrument for taking angles or distances, before a meeting of the Royal Academy of Sciences, which, being examined by some of the members, who took with it both the observations of altitudes and distances of objects. They were all well satisfied with the sufficiency and exactness of the instrument for the purposes intended, and expressed themselves as highly pleased with the ingenuity and simplicity of the invention."\* This would perhaps prove no direct intimacy, but we have immediate evidence of it from Hadley's having signed the certificate, when Godin, in 1735, was proposed for a member of the Royal Society. His name likewise was affixed to those which were presented in favour of Le Monnier, and of one of the highest names in contemporary science, of Clairaut.

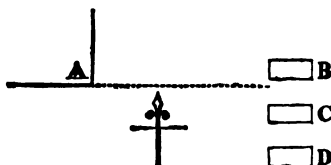
Hadley survived his marriage about ten years: he drew up his will something less than two years before his death; but whether his health was then failing, or what was the immediate occasion of his death, has not been ascertained. His father lived to 79, his brothers to 83 and 74, but he fell before he had reached his grand climacteric. Of his constitutional habits, and of his person, no accounts have been met with; but most fortunately a portrait of him has been preserved: it is only a sketch in crayons, but it is highly characteristic, and exhibits a countenance replete with benignity, as well as intelligence.

In the churchyard of East Barnet there are three altar-tombs; they are now going fast to decay, and not many years may elapse before they are in ruins. Clutterbuck, in his History of Hertfordshire, has preserved the inscriptions on them, which have since become in some parts illegible. The tinctures of the arms may not have been attended to by the person who engraved them on the

\* Journals of the Royal Society.



tombstones, or they may (even in 1815, when the history was published) have ceased to be distinguishable; in what follows, therefore, they have been supplied upon other authority. Respect for the name of the Hadleys gives an interest to the ground which covers their remains; the precise direction to it seems therefore worth preserving. If A represent the south-east angle of the chancel of East Barnet church, thirty-five feet six inches, taken in the line of the southern wall, determines the distance of the



western ends of the graves. B is that of George and Katherine, C that of their daughter Elizabeth Cox, and D that of John Hadley and his wife. On this last there are engraven at the head of the stone, the arms of Hadley quartered with those of Fitzjames, "impaling [or] three crescents [sa] and on a canton [sa] a ducal coronet [or];" \* the whole surmounted with the crest of the Hadleys. The following inscription is annexed; "John Hadley, of East Barnet, Esq., dyed the 14th of Feb. 1743, † aged 61 years.—Here also lies the body of Elizabeth Hadley, relict of the said John Hadley, who died the 15th of September, 1752." ‡

On his marriage, he had secured to his wife an annuity of £200, to which £80 was to be added for each £1,000 which he might appropriate to himself, from what she should afterwards inherit. For this he substituted in his will a more ample provision; he gave her all the arrears which should be due, and all the rents§ for her life which should accrue from his estates at East Barnet, Edmonston, and Enfield, and, probably to prevent any encroachment on them, he specifically directs some other legacies to be paid from the property at Bushey. He also gave her the income of two long annuities, each of £50, which had been the property of her father, together with the use for life of the furniture of the house at East Barnet, with as much more from his house in London as would fur-

\* Clutterbuck, vol. i. p. 154. The tinctures are supplied from Edmonstone's *Heraldry*, vol. ii.  
† This is 1743-4. Hadley was elected into the council of the Royal Society on St. Andrew's day, 1743.

‡ Clutterbuck.

§ A very large portion of the East Barnet property was woodland, which was kept in hand. Hadley therefore gave to his wife the power also of annually cutting down a certain quantity of timber.



nish it completely. It was evidently his wish that she should maintain that station which, during his own life-time, she had held in society, and with this view he added a codicil to give her his horses, as well as his coach and chariot. As she died intestate, all the property centered in an only child, a son, named after his father, John, who was born Feb. 21, 1738, and the record of his baptism, (March 17,) in the registers of St. George's Bloomsbury, is the circumstance before alluded to, which seems to point out the place of the family's residence in town. It was his misfortune to lose his father before he was six years old, and his mother before he was fourteen. To this bereavement his irregular and erroneous conduct in life, may in all probability be attributed. He is said to have been under the care of the clergyman of Fordham, in Essex, and afterwards to have become a member of the University of Cambridge, but, secure in the possession of a fine fortune, he became inattentive to the duties which it imposed upon him. He is supposed to have served in the Militia, and he appears to have been naturally of a generous disposition, for his uncle Henry speaks of a codicil of £500 which he presented as a free gift to his cousins; but this disposition was suffered to degenerate into profusion, which ultimately became completely ruinous. His uncle George, as his acting guardian, administered to his mother's estate; and, while he lived, there seems to have been a control which had some useful influence, but after he died, in 1768, all went wrong. In 1770 the Bushey estate was sold to Mr. Capper,\* and in June, 1773, the East Barnet and Edmonton property was brought to the hammer by Messrs. Langford. It is described in their printed particulars as stretching from Bohun Gate to Southgate, along Enfield Chace, and also through the vale to East Barnet, and to have consisted of 640 acres of rich arable, meadow, and woodland, with a capital mansion. This house, with Coles, Usage, and Ingers woods, with a farm which appears to have adjoined them, of about seventy acres, was sold to Mr. Charles Bowker for £6,900; Mr. Udney bought the land near Bohun Gate for £3,600, and Mr. Pardoe bought another tract of 150 acres for £4,700. The whole purchase-money was £15,950; but, as the timber was likewise to be valued down to a shilling, and also the growths of underwood, 250 acres,† which there were of woodland, must have added very largely to the amount. At what time the rest of the property was sold has not been discovered. Mr. Hadley went to live in Essex in 1764, but he did not abandon entirely his residence in Hertfordshire. He let the mansion house, fur-

\* Clutterbuck's Hertfordshire, vol. i. p. 339.

† Usage, which probably were the Huzeloeg woods mentioned in the charter of the Abbey of St. Alban's, occupied nearly 180 acres of the south-east part of the parish of East Barnet; Coles wood appears to have been on the north of Usage, and contained about 58 acres; Ingers wood, lying westward of the church, was a tract of ten acres.



nished, to Lord Chief Justice de Grey,\* but it appears that he himself at one time occupied Bohun Lodge, which was on land that had been purchased by his grandfather in 1682. This was on the portion purchased by Mr. Udney in 1773, and, having passed through several hands, is now the property of George Knott, Esq.



BOHUN LODGE.

After these sales, Mr. Hadley went, in 1774, to reside at Colchester, and even vested some part of his money in an estate at West Bergholt†; but the unthrifty habit of living on his principal had now become inveterate, and this land, with every thing else, was again sold, and the produce spent before he died. He continued, however, to keep house at Colchester till Mich. 1814, when he retired to a cottage at West Bergholt—a place where he had once been Lord of the Manor. There he ended his days in the beginning of Feb. 1816. Every thing had been disposed of, and when he died,—*Indignus genere et præclaro nomine tantum*

*Insignis,*

*Juv.*

a cottage out of repair, two-thirds of an acre of land, and £30, with a couple of watches, was all that were left out of the splendid fortune which his ancestors had laid up to support the respectability of the name. He left a will, which the executors named

\* Lysons, in the *Environs of London*, vol. iv. p. 10, mentions the residence of Lord Chief Justice de Grey in Monkton Frith House. It was pulled down when Sir Simon Clarke's residence at Oak-hill was erected near the site of it.

† He had likewise an estate at Foxearth, in Essex, whether by inheritance or by purchase is not known, and when he sold it, he reserved from the rents an annuity of £200 for his life.



in it could not venture to act under, and it was not till within these last three or four years that the son of an old servant erected a tombstone over his grave!

If any mitigation of such conduct could be pleaded, it must be found in his never having by marriage involved others in his ruin. Indeed a sadly selfish feeling seems to have been generated in him. He sold all the family jewels and trinkets, and appears to have preserved no papers or memorials of his excellent father. His uncle George had left him a bust of that distinguished man, by Rysbrac, but even this had been turned into money so long before his death that no traces have been discovered of it. Most probably indeed it is still preserved in some collection as a work of art, and, although there is no great reason to hope for so fortunate a concurrence of circumstances, it is not impossible that it may yet be found. If it should, its value will be much increased by the knowledge of its representing the

INVENTOR OF THE REFLECTING QUADRANT.

•• Two expressions have been used, which, although they do not affect the main narrative, may require some limitation. Sir W. D'Oyley, who married Mary Hadley, was certainly of the ancient family which was settled from the time of the Normans in the county of Oxford; but the branch to which he belonged would have been more precisely described as of Shottisham, in Norfolk. It does not appear, likewise, that the whole family of Fitzjames became extinct in 1670, but only that the eldest line terminated at that time in the coheiresses, Grace and Katherine.

## II.—THE LATE ECLIPSE IN AMERICA.

*Extract of a Letter, dated Columbus, Georgia, Sunday Evening, November 30, 1834.*

OUR Georgian astronomers promised us, through the newspapers, a total eclipse of the sun on the fifth of this month; however, owing perhaps to the inclemency of the weather, they postponed it, first to the fifteenth, then to the twenty-fifth, and, finally, to the thirtieth of this month, which day being warm and perfectly cloudless, was suitable for it; and accordingly to-day our eclipse took place with all proper splendour.

I, who dreamt not of eclipses, went to stroll in the woods across the river, when I came in sight of Fikata's log-hut, I felt an irresistible desire to rest myself. Fikata, a sober good-natured widow, dressed in a shirt and petticoat, was sitting in a chair under the piazza, carding cotton. By her side sat a pretty, quiet girl, her eldest daughter, Folötkie, dressing her hair with a vial of grease (of ursine kind, for aught you or I know,) at her feet: she



was dressed in a new gown, and seeing me coming, she snatched up the vial by the string round its neck, and slipped into the house with it, while her mother, handing me a stool, said, "Lyga" (abide.) Sillee, the second daughter, a laughing little hussey, some nine years of age, was gone to the spring for water; a golden and somewhat curly-pated boy, (Chevanie,) still younger, was playing about with his bow and arrows, and a squaw was busily employed for the *family*, under a shed, which serves as a kitchen. Soon after I had arrived, one of Fikata's companions, another very old woman, joined our party, which was thus deficient of men.

We had not been together long, before I noticed a remarkable change in the atmosphere, which at once reminded me of the eclipse. I looked up at the sun, and saw that only a small part of it, on the west side, was darkened; yet it seemed entirely to have lost its power of giving heat. The light was milder, the blue of the sky was changed, the trees in the distance appeared indistinct, and the shadows on the ground about me were more so. I looked at my watch, it was twenty-three minutes past one; we are not, however, very correct about our timepieces in Columbus. After an unsuccessful attempt to get possession of Folótkie's looking-glass, which I intended to have destroyed without mercy, as I was blacking my spectacles, the sun decreased to a crescent, blunt at the points, the cloudless sky assumed gradually a leaden hue, and the air felt chilly and damp as night. While I thought I heard the shrill frogs croak louder, as they generally do at night, the shadow of the house, and my shadow, were of that double kind which is produced in a room at night, by two candles placed at a little distance apart; whilst the shadow of an oak, whose withered leaves the full blaze of the sun had faithfully pictured on the ground, became, when but a crescent of light was left, a deep black mass streaked with narrow crescent lines of light, crossing each other, and having a curve opposite to the crescent which was left of the sun, so that the crescent of the sun and the crescent on the ground, stood horns to horns, and, if they could have been brought together, would, by touching each other's horns, have been completed to a circle. The moment when, as the eclipse went off, the west side of the sun became visible, the crescent lines on the ground also changed their direction.

The Indians at first took little notice of what was going on, but by the time Sillee had returned with the water, the whole of them began to be frightened, their thoughts naturally turning to the prophecies of their own seers, and to that of the Creeks, about emigration to the Arkansaw, "Darkness and fire await this land when the red men leave it;" so no wonder the women cried out, "Ayee! isté efekee somks," (people's hearts are lost, frightened.) "Hisee somk artliss!" (the sun will be gone; it is just as we have been told.) "Owee yokúfkee apéantítas," (it is best to go to the



muddy water (Mississippi), this land will burn up soon.) "Aye! Yamoochk harkis," (Oh! it is getting dark : Oh! it is quite dark in the house,—and well it might be, for it had no windows.) "Chevanie," said one of the old dames, "go and fetch some wood ; how shall we get away before the land takes fire! Oh, the sun's nearly gone ; we shall have to travel all the way in the dark!" "The Indians ought to be firing guns," said the oldest woman, who had seen such things before : "Oh! that Chevanie will lose himself," cried Fikata, "it is getting quite dark. Why do not the Indians shoot? Chevanie! Chevanie! make haste home! why do not the Indians shoot?" Such were the exclamations and the confusion of the party, when bang went several guns in the neighbourhood, with the noise peculiar to plenty of powder and little wadding, accompanied by a loud and continued yelling.

Whilst the last faint ray of sunshine disappeared, and left our party cold and terrified under a black starless sky, a faint whitish light was seen close about the sun, not spread equally round it, but more at the sides than above and below. Far above the tops of the trees, also round the horizon, was a whitish light, apparently reflected from the earth; it wanted two minutes and a half to two o'clock ; I could see the watch plainer than in a moonlight night. "One sweet star kindly remains," cried Fikata, expecting to find that every thing above her was destroyed, and rejoicing that it was not, as she pointed to the only star we could see, a bright one, east of the sun, and rather nearer the horizon. It was a thrilling moment even to me, unaffected as I was by superstition : what must it have been to the Indians? who heard in it the voice of the Almighty warning them to leave the land they love, as he is about to destroy it. I was with a timorous party, but our neighbours with the guns were not so. Reckless defiance of such things is far more common among Indians, than the fear of harm.

One stormy night last summer, I was with a party of them standing round a fire, when the electric fluid, in a column as big as the body of the tree, shivered a magnificent pine within thirty steps of us! While our ears were stunned, our eyes dazzled, and bark and splinters falling round us in all directions, the Indians burst into one of their long, tremendous yells, accompanied by a frightful laugh and significant gestures of the body, which must be seen and heard to be appreciated, and which mean, "Here I am, in spite of you!"

On the present occasion, our neighbours with the guns, who, though not very far off, were concealed by the woods, blazed away, and whooped and halloed most manfully, while some big-souled woman, who possessed stouter nerves than I am willing to give any man of my acquaintance credit for, bawled out at the very top of her voice, to a most appropriate tune, loud, clear, and



without the least tremulousness, the following stanza of a popular Creek song :—

" Owee eyokuf kee	To the muddy waters
" Sippotoo hokayee,	We are warned to go, <i>are we</i> ?
" Aya koo tita ee.	We sha'n't go, that's it.
" Ecoo ya lee	
" Ecoo ya lee o oo eco yah ah lee	
" Eco ya lee o oo ecoh yah hah leeh."	

The last three lines are a mere burden, and have no meaning. This state of things did not last long, not above a minute, I think. We lost the last rays on the lower eastern edge of the sun, and the sudden exclamation from more voices than one, "Chee! pala humkee alarks," (see! the other side is coming back,) announced their reappearance on the lower western edge. The oldest woman then commented on the efficacy of the "reports" (tapotts) and noise, which remedy, in former eclipses, she said, had been applied much sooner, and had stopped the darkness half-way; and in the midst of her harangue, Sillee noticing that part of the sun which had again become visible, screamed out "Chee! Immoxt tchay," (it has not been damaged at all.)

As near as I could tell, at a quarter-past three the moon disappeared at the upper eastern edge of the sun, which, thanks to the discharges from the rifles and guns of the Indians in the town of Cootskalacha, three miles south of Columbus, has escaped being put out for this once.

The foregoing is highly descriptive of the Indian character—but it would appear, that the eclipse was attended with some very extraordinary circumstances besides the crescents of light, which were no doubt the effect of mirage.—The following letter seems to confirm it.—*Ed.*

"A total eclipse of the sun occurred in South Carolina on the 30th November last. The observations were made by Mr. R. T. Paine, the distinguished American astronomer, who was induced to proceed from Boston, his place of residence, to Beaufort, in South Carolina, a distance of nearly 1,000 miles, on purpose to witness the phenomenon. The telescope with which Mr. Paine made his observations was a four feet equatorial one, to which magnifying powers varying from 40 to 75 were applied. The following are the periods of the commencement and duration of the eclipse in mean solar time at Beaufort:—

	H.	M.	SEC.
Beginning of the eclipse . . . . .	0	31	49 p.m.
"    of total darkness . . . . .	1	58	54
End of total darkness . . . . .	2	0	43
Termination of eclipse . . . . .	3	20	19
Duration of total darkness . . . . .	0	1	19
Duration of the eclipse . . . . .	2	48	30

Mr. Paine, in a letter to his friend Mr. J. J. Audubon, describing this phenomenon, says—"I consider myself well repaid by the observations I was enabled to make, for all the trouble and inconvenience attending my journey. The effect produced on all animals was very great, whilst the unearthly appear-



ance it produced on surrounding objects, can never be forgotten.' During the darkness, the buzzards and the poultry were seen flying to their places of roosting, and the plants of the mimosa tribe closed their leaves. The only difference observable between this eclipse and the total one which occurred at Boston in June, 1806, was that, on this occasion, when the sun was completely concealed from sight, the moon appeared to be surrounded by a beautiful effulgence, which in 1806 was not perceived. This halo could not, however, be discerned through a darkened glass. The following stars and planets were visible: Arcturus, Lyra, Altair, Antares, Venus, and Mercury. The thermometer fell six degrees during the time of the sun's obscuration. No other total eclipse will occur in the United States during the present century."

### III.—MARINE INSURANCE.

*To the Editor of the Nautical Magazine.*

Kirkcaldy, 28th Jan. 1835.

SIR,—In the Nautical Magazine for this month I find an article entitled "Marine Insurance Defended," in which a correspondent, under the signature "Vindex," has taken up the cudgels, as he calls it, against you, myself, and your friend the author of the little work on Marine Insurance. As he has taken up the cudgels against us, I hope I may be heard in reply, before I am cudgelled. Not that I hope to make any impression on Vindex, knowing well, that

"Convince a man against his will,  
He's of the same opinion still ;"

but because I know the truth is great, and will ultimately prevail; that he is doubly armed whose cause is just; and that by means of fair and open discussion the truth will eventually be made manifest. Prompted by these motives, I am disposed to try a lance with Vindex, even although I should get well cudgelled in the conflict.

On one point, Vindex and I are not at such variance as we may seem to be. It is the *abuse* of sea insurance which I condemn, and not the *use* of it. He is therefore quite right in saying that insurance does not require another advocate, so far as his advocacy goes. I am an advocate for it, as well as he, though a far less able one. But it is against the *abuse* of it, which causes weak and worthless vessels to be built and sent to sea in the first instance, and the every-day practice of insuring vessels at far above their *marketable* value, and withholding repairs from them, in order that they may be lost, which I contend. Vindex will surely not allege that this is the *use* of sea insurance. The effects proceeding from this cause I still maintain to be "three-fourths of the shipwrecks that take place," and which took place in 1833.

I regret that there is no method of making myself intelligible, but by making larger extracts and quotations than I fear you will



be disposed to give room to, by shewing one opinion against another, and by giving *proofs* in support of such opinion. To do Vindex every justice, I quote the following from his third paragraph :—"He" (myself, I presume) "advertes to the year 1833, and says, (I think he is within bounds,) that in that year there were 800 British vessels lost or wrecked. Now, this number being lost, it follows, if the assertion of your correspondent be true, that at the door of sea insurance must be laid the destruction of three-fourths of that number, i.e. 600 British vessels; a fearful number indeed! and calling loudly for legislative interference in the whole system, if the fact were so. I could deal in assertions as well as your correspondent, and I would probably not be very much out, were I to aver that only a certain portion of the vessels *were insured*,\* but I will not fall, if I can help it, into his error. I shall, however, meet his assertion with a direct negative; and what he ascribes to the remote agency of man, I shall attribute to the more proximate cause, the war of the elements, that fearful war of winds and waves against whose overwhelming force neither the heart of oak nor the heart of man, neither the best constructed ship nor the most courageous sailor, are of any avail."

Now, Mr. Editor, this last sentence is certainly an assertion by Vindex which I meet with a direct negative, and it only remains to bring my *proofs*. I shall do this, by stating the opinions of individuals equally well informed and intelligent as Vindex on the subject, and then making the application to cases in point.

Vindex confesses his ignorance of the proud, the beautiful science of ship-building. This is most peculiarly unfortunate, (I trust it is not assumed,) because to this point alone, and only, the incapacity of ships, and not of mariners, do I ascribe three-fourths of the losses which took place. Let us see, then, what others have said on this point, and I here (I regret the space it will occupy, but cannot make out my case without it) give the opinions of two writers not professionally connected with the sea, or the construction of ships, that proud and noble science, which Vindex regrets his ignorance of. The first is quoted from the Spectator newspaper of 3d November, 1832 :—"A ship, according to the common form of building, is one of the frailest of vessels which ever art in its infancy constructed. The hull consists of a series of pieces of timber, fastened at right angles to each other, which, in their aggregate are so ponderous, and from the mode in which they are fastened, cohere so slightly,† that it requires the actual external pressure of the water, to hold them together. Under ordinary cir-

\* Who alleges the contrary? J. B.

† The very strongest cohere but slightly, while many of them, say one half of them, do not cohere at all. J. B.



cumstances, whenever a ship takes the ground, and the support from without is withdrawn, it falls to pieces on the slightest agitation, from the mere effect of its own gravity. Not only is the form of building, of all others the weakest, and only to be perfectly sustained by the pressure of the denser fluid from without; but the expedients adopted to keep that fluid in its proper place\* are of the most bungling and imperfect kind. It might be supposed, that however ignorant of the principle of diagonal ties, common sense would, without any instruction, have taught a ship-builder to use all accessible means to prevent his vessel from leaking.† To leave a hole unstopped, where the stopping of it is matter of plain and practicable necessity, seems the very sum of stupidity. Yet this sum of stupidity has been attained to, and is still persevered in, by nearly all the ship-builders in the world.‡ Nay, the resources of art have been called into action, still further to weaken what was previously feeble; and means and appliances have been used, to make that doubly hazardous, which was naturally obnoxious to injury. The plank which runs parallel and next to the keel; the bottom plank, as one of the uninitiated would call it, is termed by the ship-builders the "garboard strake." If there be any part of the vessel that requires to be stronger than another, with a view to guard against leaking, it is this plank, for it is plain to the meanest capacity, that the pressure of the water must increase in force as we descend; that a very small hole at the extreme depth of the vessel's hold, will pour in a much greater stream than a hole of larger dimensions near the water line; added to this, a damage in the former case is got at with much greater difficulty than in the latter. Now, would it be believed, that not only is this garboard strake not stronger than the rest of the planking, but that it is invariably weaker; that the substance of it is cut into and channelled, in order to serve as a water-duct for the pumps; || that in a vessel of a thousand tons, the utmost defence that is placed between the crew, the passengers, the cargo, and destruction, even in its first voyage, and in its best and soundest state, is three inches of oak timber? that a touch from a pointed bit of coral, a scratch of its own anchor, is sufficient any time to drown, with all its contents, the proudest Indiaman that ever floated? Pierce the outer planking, and down goes the ship, i.e. let one-tenth part of the

\* In other words, to keep the water out of the vessel. J. B.

† And so common sense would, had there been no interference with him, and will do yet, if it be made an object to build a strong instead of a weak ship. J. B.

‡ Merchant ship-builders only, where ships are insured, and where a premium is paid on their being lost. J. B.

|| Either this must be done, or the timbers cut away, which is equally bad, to form a water-duct to the pumps. J. B.



substance of its mighty, and apparently substantial sides be destroyed, and the whole is destroyed." (For the remainder of the article I refer to the paper.)

Now, what does Vindex think of this description of the proud, the beautiful science of ship-building, and of the correctness of which he may satisfy himself by consulting the latest edition of Lloyd's Register of British and Foreign Shipping; or, if he is not satisfied with that, by taking a look into a ship-building yard!

The next quotation I shall make, is from the "Profits of the Sinking System at Sea," and I much regret that I cannot hope that your limits would admit of reprinting the whole of it:—"Almost every body has seen the skeleton of a ship of one size or other in a ship-yard. They will have seen the ribs or timbers of the vessel standing at certain distances apart. Now, in ships of war built in the present day, the spaces between these ribs are filled up, and cemented with a solid mass of wood-work in the bottom, the grain of the separate pieces or timbers intersecting each other; affording thereby additional security against violence of any kind. Then come the planking outside, and the planking inside, called the ceiling,\* which bind all together with a degree of strength all but unknown out of his Majesty's dockyards. The winds may blow, and crack their cheeks; the waves may rise to mountains; it is ten to one but such a vessel will ride in safety." (The above passage is particularly recommended to Vindex's attention.) "Granted that she is still not proof against rocks and shoals, yet even here she will live, when weaker vessels would be riven to atoms." (For remainder of the article, which shews not only the effect, but the why and the wherefore of the workings of the system, I beg leave to refer to the Westminster Review, No. 38, under the above title.)

Let Vindex contrast these two methods of the proud, the beautiful science of ship-building together—"look on this picture, and on this"—and then say if the losses of merchant-shipping be owing to the war of the elements! And what was the effect in 1833, the year referred to? I observe there were in that year 160 vessels of war in commission; and were any of these lost? Not one. Were any of them exposed in the same perilous situations in which merchant-vessels were exposed? Yes. The Forester was ashore on the rocks of Scilly; the Larne on the Goodwin Sands; the Endymion ashore in the Tagus; and there may be

\* The author is in error here. Ships of war built in the present day do not have ceilings inside, but they have timbers inside, placed diagonally across the main timbers, and the effect is such as the author describes. Merchant-ships have ceilings, and advantage might be taken of them, to keep out the water, if safe ships were desired. J. B.



other\* instances which I have not observed; besides many of the vessels exposed on the coasts of Britain, and in all quarters of the world, to the war of the elements, and yet not one vessel of war was lost. Will this proof satisfy Vindex that the loss of many of the

\* No doubt there are many other instances. And, by way of illustrating still further the position of our correspondent, we will give the following, afforded by two of his Majesty's steamers. Our readers may rely on our authority for their truth; and, extraordinary as they may appear, there can be no doubt that the safety of these vessels must be attributed to their being well built and their keels constructed on Mr. Lang's principle. In our first volume, at pages 361 and 329, will be found descriptions and plates representing this valuable improvement in ship-building, which we then named the "Safety-keel," and not without reason, as the following will shew. *Ed.*

His Majesty's steam-vessel *Lightning*, constructed by Mr. Lang, (now of Woolwich dockyard,) when Assistant-Surveyor of the Navy, and built under his inspection at Deptford dockyard, after having been completed for sea, on her way out of the river Thames, ran on shore a little below Sheerness, on the Spaniard Shoal, and fell over on her side, where she lay dry at low-water. She floated again at high-water, and it was found she had sustained no damage. As she was entering Dover harbour soon after, she ran full speed against the pier, and struck her fore-foot or gripe, knocking it over on one side, but she made no water. Some time after this she was docked at Portsmouth, her gripe was replaced, and she was found to be perfectly tight.

The next important occurrence of this nature happened as she was going into Jersey, when she ran on shore, and fell over on her side at low-water, in a very violent manner. The shock produced by her fall was severely felt, particularly in the engine-room; but she sustained no injury in her fabric, notwithstanding she was left dry, by the water receding from her above one hundred and fifty feet.

Again, while she was in the Downs, the *Lightning* was ran into by a loaded collier, which struck her just abaft her starboard paddle-box. The consequence was, that her spongings and sponcing-timbers only were broken; but the collier afterwards was obliged to run on shore, to be saved from sinking, for, having stove her bows in the concussion, she became a wreck.

In the heavy gale of wind in February, 1833, the *Lightning* was in the Irish channel, on her way to Dublin, at the same time that the *Erin* steam-vessel foundered in the gale. The *Lightning* made her voyage in safety, but she had the misfortune to run against some rocks, and carried away the fore-parts of her keel and gripe. However, she made no water after the accident, and continued afloat two months before she was docked, without any leak whatever being found. Her keel and gripe were then replaced, and her damages made good.

In the month of December following, the *Lightning* sailed from Falmouth on the same day as the *Columbia*. In the course of the day she passed the *Columbia*, notwithstanding the wind blew very hard, and increased to one of the most tempestuous gales that had been known for several seasons. So severe was the gale, that the *Columbia* was obliged to put back, and, from the situation in which she left the *Lightning*, considered the latter had foundered. But, notwithstanding this, the *Lightning* proceeded on till she arrived at Corunna, and from thence to Lisbon. On her way to the latter place, when about forty miles distant from it, she discovered a vessel in distress under the rock, firing guns, being on a lee shore. Down went the *Lightning* to her, and found her to be H.M. brig *Plover*, of ten guns, which had sailed from Falmouth eight days before the *Lightning*. The *Lightning* towed her off from the land in



merchant-vessels was owing to the agency of man, in their imperfect construction? I think this should satisfy him, that it is practicable to preserve ships, though exposed to many of those formidable dangers which he so ably describes; and that the difficulty

safety, and, leaving her with a good offing, continued on for Lisbon. There the Lightning delivered the despatches to the Admiral, and returning to the Plover, found her advanced about five miles towards Lisbon in the interval! Again she took her in tow, and conducted her safely into her port.

In October, 1834, the Lightning ran over the Cole rock near Helsingør, going between eight and nine knots. This rock has about a foot less water over it than her draught; but she was brought up against, and hung upon another rock by the middle, where she remained ten hours, dropping and raising head and stern successively. The consequence was, that her gripe, part of the fore-piece of keel, and midship-piece, by which she was hung on the rocks, were carried away; the whole of her keel all fore and aft was rubbed off about two to three inches, from the under-side, against the rocks. After getting off in this damaged state, she experienced a heavy gale of wind, which lasted four days, and from which she sought shelter at Helligoland; but there she parted both her cables, and was driven to sea. Notwithstanding the sea was running as high as her funnel, she shipped nothing but spray. At the same time the *Superb*, one of the common-built steamers, was lost. The Lightning bore all her misfortunes well. It was observed by those on board her at the time, that she did not work or strain in any part; not a door or drawer jammed or altered, nor a seam or butt open, nor was her pitch even broken in any place; she shewed no sign whatever of altering her form, but remained perfectly tight. On repairing the keel, it was found in removing the damaged part that it was quite dry within, and no water had penetrated into the hull of the vessel; the caulking of the seams and wood ends, notwithstanding the heavy shock in lodging the gripe and keel, was hard and sound, and not started in the least; thus proving the strength of her fabric, as well as her safety.

The Lightning has also performed many difficult voyages to various parts of the world, viz. Mediterranean, Spain, Portugal, France, Holland, Denmark, Sweden, Russia, Scotland, Ireland, &c., and experienced very bad weather. She was in the battle of Algiers, and was highly useful in placing the ships in order for fighting, and towing out from under the batteries such vessels as drifted within the reach of the enemy's guns, to the very great astonishment of the Dey, who, at that early time for steam-vessels, could not conjecture what the Lightning could be, to perform such surprising service.

His Majesty's steam-vessel *Flamer*, constructed by Mr. Lang, and built in a similar manner to the Lightning, went on shore on the rocks at Zante, in the Mediterranean, going nine knots, and ran up two feet less than her draught of water. She remained on shore twenty-two hours, carried away her fore-piece of keel and gripe, tore off her copper from her bilge, and injured the plank of her bottom. She was lightened and got off, came to England safely; and when taken into dock at Woolwich about six weeks after, the caulking was found hard and sound, even close to the parts that were carried away, and the ship shewed no appearance of straining, or having suffered in her fabric by the violence of the blow. Previously she was run into by a Spanish ship, just abaft the paddle-box, which stove in her sponcing at that place, without injuring the *Flamer* in any other part. The Spaniard received much damage in running foul, and on getting clear; left the knee of her head behind, which was broken off in the *Flamer*, and brought to Woolwich.



does not lie in doing it, but because it is not wished to be done. But how, says he, can your correspondent shew that the unsafe construction of merchant-ships proceeds from marine insurance? I will endeavour to explain this; but I must, for want of better education, resort to round numbers again, and hope Vindex will excuse it. I have hated-fractions and fractures all my days, whether simple, vulgar, or compound; and whether of ships, houses, bridges, figures, or limbs; and the more fractional, the more I hated them; but have been proportionally fond of aliquot parts and round numbers. I hold, too, that in every case one fact is worth a thousand arguments. I assert it to be a fact, then, (which Vindex may deny if he thinks proper,) that, owing to the *abuse* of marine insurance, if a ship-builder builds a strong and safe merchant-ship he cannot sell it, simply because a ship-owner can purchase a ship of the same size at probably half the price; and, because the ship-owner having less capital embarked, he loses the interest on a smaller sum; and as he has less insurance also to pay, by one-half, he gains by saving the interest of his capital, and by paying less insurance; and, although the vessel be lost, his capital is safe, and is not lost to him. For the truth of this position, I appeal to ship-builders themselves. I will state a case in round numbers, for your readers' and Vindex's consideration. A very superior ship was lately built by Messrs. Menzies & Sons, Leith, in expectation of sale for the East India or China trade, and launched in June or July last. Not being saleable, merely because *she was a good ship*, (this is only one instance out of the "tottle of the whole,") she was fitted out and sent to London, where I understand she still remains unsold. Her register is 475 tons. Now, the builders would probably not make a profit, perhaps not even be paid for their material, labour, and interest of capital, although she were sold to-morrow; the materials and workmanship being all of the very best quality, and the vessel fitted out for sea; at £16 per register ton. This, if my round numbers be correct, will amount to £7,600. Now, I can purchase a new British-built vessel of the same tonnage, and fitted out for sea, at £8 per register ton, or £3,800; which I can get insured at precisely the same rate per cent., (here lies the iniquity,) and with which I can earn exactly the same amount of freight and passage-money. Then, am I not saving the interest on £3,800, and the insurance on £3,800, to say nothing of the deterioration of a larger stock, by having the weak vessel instead of the strong one? Suppose the interest to be 5 per cent. and the insurance to cost 10 per cent., together 15 per cent. per annum, this will amount on £3,800 to £570, which the stronger ship will cost per annum, more than the weak one; and this, as said above, exclusive of the deterioration on £3,800 worth of stock exposed. £570 per annum is no mean sum to keep a ship-owner's family on in these hard times, Mr.



Editor. But this is not all. Suppose both ships to go ashore, side by side, on a sand-bank, or a ledge of rocks. The consequence would in all probability be, that the weak vessel would go to pieces, like one of Vindex's 400 coasters in 1833, while the strong ship, like a ship-of-war in a similar case, would in all probability hold together, and be got off. What follows? The owner is paid in full for the weak ship, being a total loss, and let us suppose the repairs to the strong ship to cost £900. Of this sum the underwriters pay only two-thirds, or £600, on the ground of giving new materials for old, and the owner must pay the difference. Here, then, is £300 to be added to the price of the strong ship, in addition to the loss of time, &c., making the price of it now £7,900. And this without having its reputation raised, but actually lowered, and with which the owner can earn no more money than with another new ship of the same size, which might again be purchased for £3,800, making a difference of £4,100 of stock, which I am losing the interest of, and paying insurance on; and if at the rate of 15 per cent. interest and insurance together, it will make a difference of £615 a year in favour of the weak ship. Suppose the same circumstances to happen again and again, and £300 more to be added each time to the price of the strong ship, (a third being the proportion, the third of any other sum will represent the case,) and see how the ship-owner is punished, to probably utter ruination, by having a strong instead of a weak ship.

While marine insurance is conducted on such principles, can it be wondered at that no safe ships are built? But, says an impartial observer, the strong ship is much less liable to be lost, and incurs less risk, than the weak ship. Exactly so. But will underwriters insure her at a lower premium per cent. in consequence of her additional strength? Will they, in short, insure the Hecla, which was doubled, strengthened, and fortified at the national expense, at a lower rate of premium than an ordinary whale-ship of the same age? There's the rub. The question has lately been asked by the proprietors of that vessel, and the answer was "No," although we know it is unjust (*aside*.) Is this then not holding out to ship-owners the strongest possible temptation to get weak and unsafe vessels, instead of strong and safe ones? Is it not, in short, the ship-owner's interest, as matters are now conducted, to get a weak ship, and that she should go to pieces, rather than a strong one, and that she should be preserved? I have been told very repeatedly by ship-owners, that, "if any person would offer to go on board of my vessel, and to do that thing to her, no matter what it is, which would have the effect of preserving her, when she was in danger on a rock or a sand-bank, although he was to do it for nothing, I would prevent it being done." Why? "Because my vessel is insured to the value, and it is to my interest that she should be totally lost,



(a total loss being easily settled,) rather than got off in a damaged state."

This will I think answer the question of additional cost by Vindex, and is I think a pretty clear proof of the *pernicious* effects of sea insurance, as at present conducted.\* Is the ship-owner's or ship-builder's conduct to be wondered at in the circumstances? And is this the system defended by Vindex? And have the effects not been, that the British commercial marine is reduced to the lowest possible condition at which it will hold together and float? And does this not proceed from the means used to raise or keep up premiums, without regard to the consequences? Will underwriters, in short, encourage the building of strong and safe ships?

Vindex's remarks on the Sea Insurance Companies, if applied to me, are entirely thrown away; and the petition from Edinburgh was never seen by me till I read it for the first time in the London Courier. It is therefore against the inhabitants of modern Athens that Vindex's sarcastic remarks on the remote regions of Kirkcaldy apply; and I can well assure him, that amongst the inhabitants of that city, and probably some of them the petitioners, there are as highly talented individuals, and not less highly respectable members of the commercial community, in proportion to extent of population, to be found, as amongst an equal number of the inhabitants (I speak it with the most perfect respect, reckoning yourself amongst the number, Mr. Editor) of Babylon the Great.†

I shall furnish Vindex with another quotation from a publication emanating from that intellectual city. It is from Chambers's Historical Newspaper for this month, under the head of "Disasters by Sea :"—"In two months of the year 1833, one hundred thousand tons of British shipping were reported to have been lost: now, as there are about forty men for every thousand tons of shipping, here were the lives of four thousand men (exclusive of passengers) put in jeopardy, of which probably one half were lost. Indeed, since the abolition of slavery, we do not know of any system connected with our national institutions, which humanity has so much occasion to execrate, and so much reason to desire to see altered, as that of which we are speaking. \* \* As for the dread of loss, (of ships,) it is entirely obviated by the insurance brokers, who, so far from desiring to see vessels safely constructed, find it for the interest of their trade to encourage insufficiency by all possible means."

The subject is by no means exhausted, and I shall probably have

\* This is supposing every thing to be fairly and honourably conducted: but, supposing the vessel to be insured to double or treble her *marketable* value, is it not strongly the owner's interest that she should be lost?

† Gentlemen, you do resemble the Athenians in the beauty of your city, in the elegance of your buildings, and in the manner in which literature, science, and the arts, flourish in your city.—*Sir John Campbell's Speech to the Electors of Edinburgh.*



a few more words, and answer Vindex's questions when you can again spare room. In the mean time, that there may be "no mistake," I re-assert, that 600 out of the 800 losses of vessels in 1833 was owing to marine insurance, as then, and still conducted.

I am, Mr. Editor, your obedient servant,

JAMES BALLINGALL, Ex-Surveyor of Shipping  
at the Port of Kirkcaldy.

P.S. On a re-perusal of the article by Vindex, I find I have scarcely answered any of his questions. In my next I shall answer them to the letter. J.B.

#### IV.—THE SERANGA, OR INDIAN-RUBBER TREE, AND THE METHOD OF TAKING THE CAOUTCHOU OR MILK.

THE following extract from an officer's journal, relating to the manner of taking the caoutchou or milk from the Indian-rubber tree, may not be unacceptable to our readers :—

The Indian-rubber tree abounds in the province of Para, on the north coast of Brazil. It would be difficult to get a correct notion of the quantity of milk which might be obtained, or of the space occupied by the forests, but there are certainly from nine to ten thousand Indians always employed in taking it. The trees which I saw were about sixty feet high, and from eighteen inches to two feet in diameter, and entirely free from branches, or even knots, until near the top, when they branched out, and produced a fruit. They were growing indiscriminately amongst trees of all sorts; in fact, they were in the midst of a dense forest, and near swampy ground. For a long time after the milk was brought into general use for manufacturing purposes, the trees were cut down to procure it, for the Indians were not aware that by the process of bleeding or tapping them, they might be made to render as much milk, and that this might be repeated yearly. Indeed, this operation, to a certain extent, is said to be wholesome or necessary to the tree, which, if left untouched for a long time, refuses to yield milk.

The manner of procuring it is as follows :—Taking a quantity of soft clay with them, and each man being provided with a sword not very unlike a ship's cutlas, a party of Indians proceed to the woods. They make cuts in several places on each seranga or Indian-rubber tree they come to, and form the clay they have with them into little cups round each wound in the tree, the milk of which immediately begins to appear, oozing out faster or slower according to its worth. The party go on in this way searching for trees, leaving some of their number occasionally behind, who collect the milk from the small ones into larger clay bowls. In general, the moulds to which the caoutchou is to be applied, are carried out with them; at all events it must be used within



twenty-four hours after it has been procured, otherwise it becomes dry and hard. The process of modelling is performed by dipping; when the substance is dry, the models, which are of clay like the cups, are broken and shaken away from the inside. Thus, do we want a pair of shoes, to fit feet for which nature has not done much? We repair to the Hoby of Para, who models a lump, or two lumps of clay, to represent our unfortunate bumps or instep; he sends these unsightly structures by his trusty servants, to the forest; they are dipped some three or four times, at intervals of about five minutes, and brought home again, where they hang up at the shop-door from twenty-four to forty-eight hours, until in short they acquire a sufficient hardness, when they are handed over to their happy purchaser, at the rate of from eighteen pence to half-a-crown the pair; an illustration of how art may overcome nature.

The common use for which the caoutchou is applied, is for shoes, great quantities of which are taken to the American market, the inhabitants of some provinces of the Union being very partial to them. They are always worn over leather ones in this country, but I believe not in America. The town of Para, which contains a population of about 30,000 souls, is only curious from the appearance which the Indian-rubber shops make in it. The shoes may be seen strung together by thousands, and of hues varying from the dingy yellow to the jet black, according to the goodness of the material or the length of time they have been hanging up. Here and there also may be seen droll figures of monkeys, or other animals, formed in the same manner, and made as playthings for children.

The caoutchou is also used to render cotton garments impervious to wet, and as such finds a great demand in England. Rope is also manufactured with it, instead of tar, the flax being the tender leaf of the plantain tree.

In all its different shapes, Para perhaps exports nearly 1,500 tons of Indian-rubber annually.

There is no doubt that much more advantage might be derived from it than is at present, if an easy and cheap way of keeping it in a liquid state could be discovered. The expense of using it in England arises solely from this cause. The largest manufactory in this country, where it is used in making rope, and for other manufacturing purposes, is said to be at Grimsby, under the superintendence of Captain Harris, of the Navy.

[The Messrs. Enderby have applied the caoutchou to another purpose, besides that of rope, and have succeeded in using it as a substitute for oil in lamps. Indeed, the purposes to which it may be applied are yet but little known. Another of them is an excellent substitute for giving "French polish" to furniture. ED.]



TABLE XII.

*For reducing Neapolitan palms to English feet, and English feet to Neapolitan palms.*

1 Naples palm = 0·85964501 English foot.

1 English foot = 1·16327086 Naples palm.

Palms or Eng. Feet.	English Feet and Dec. parts.	Naples Palms and Dec. parts.	Palms or Eng. Feet.	English Feet and Dec. parts.	Naples Palms and Dec. parts.	Palms or Eng. Feet.	English Feet and Dec. parts.	Naples Palms and Dec. parts.
1	0·860	1·163	38	32·667	44·204	75	64·473	87·245
2	1·719	2·327	39	33·526	45·368	76	65·333	88·409
3	2·579	3·490	40	34·386	46·531	77	66·193	89·572
4	3·439	4·653	41	35·245	47·694	78	67·052	90·735
5	4·298	5·816	42	36·105	48·857	79	67·912	91·898
6	5·158	6·980	43	36·965	50·021	80	68·772	93·062
7	6·018	8·143	44	37·824	51·184	81	69·631	94·225
8	6·877	9·306	45	38·684	52·347	82	70·491	95·388
9	7·737	10·469	46	39·544	53·510	83	71·351	96·551
10	8·596	11·633	47	40·403	54·674	84	72·210	97·715
11	9·456	12·796	48	41·263	55·837	85	73·070	98·878
12	10·316	13·959	49	42·123	57·000	86	73·929	100·041
13	11·175	15·123	50	42·982	58·164	87	74·789	101·205
14	12·035	16·286	51	43·842	59·327	88	75·649	102·368
15	12·895	17·449	52	44·702	60·490	89	76·508	103·531
16	13·754	18·612	53	45·561	61·653	90	77·368	104·694
17	14·614	19·776	54	46·421	62·817	91	78·228	105·858
18	15·474	20·939	55	47·280	63·980	92	79·087	107·021
19	16·333	22·102	56	48·140	65·143	93	79·947	108·184
20	17·193	23·265	57	49·000	66·306	94	80·807	109·347
21	18·053	24·429	58	49·859	67·470	95	81·666	110·511
22	18·912	25·592	59	50·719	68·633	96	82·526	111·674
23	19·772	26·755	60	51·579	69·796	97	83·386	112·837
24	20·631	27·919	61	52·438	70·960	98	84·245	114·001
25	21·491	29·082	62	53·298	72·123	99	85·105	115·164
26	22·351	30·245	63	54·158	73·286	100	85·965	116·327
27	23·210	31·408	64	55·017	74·450	200	171·929	232·654
28	24·070	32·572	65	55·877	75·613	300	257·894	348·981
29	24·930	33·735	66	56·737	76·776	400	343·858	465·308
30	25·789	34·898	67	57·596	77·939	500	429·823	581·635
31	26·649	36·061	68	58·456	79·102	600	515·787	697·963
32	27·509	37·225	69	59·316	80·266	700	601·752	814·290
33	28·368	38·388	70	60·175	81·429	800	687·716	930·617
34	29·228	39·551	71	61·035	82·592	900	773·681	1046·944
35	30·088	40·714	72	61·894	83·756	1000	859·645	1163·271
36	30·947	41·878	73	62·754	84·919	2000	1719·290	2326·542
37	31·807	43·041	74	63·614	86·082	3000	2578·935	3489·818



## VI.—EXTRACTS FROM A JOURNAL IN THE ST. LAWRENCE.

THE season (1833) is at least a fortnight more forward at Quebec than it was last year, as is indicated by the vegetation, temperature, &c. Yet the ships have been much later in arriving from Europe. On the 9th of May we witnessed the first arrival from England. Several stragglers followed; but it was not till the end of the month that the harbour of Quebec exhibited its spring appearance of a forest of masts, or that the wharfs and streets of the Lower Town displayed that scene of bustling activity, and those crowds of merchants, sailors, &c. which characterize a great commercial sea-port.

We sailed on our tour in the St. Lawrence about the end of May, after enduring all those petty vexatious causes of delay, which attend every one, I believe, who fits out vessels at Quebec; and which, especially, occur on the first sailing of a new vessel. The delay was occasioned by the fitting of our tender, a new vessel of 40 tons; but it was of no great consequence, as we were informed that the Gulf was still full of ice; and reports reached us also that several vessels had been lost in it, with many lives. At anchor off Grosse-isle, 29th May; we have been towed down by that magnificent steamer, the Royal William, built at Quebec, to run between Quebec and Halifax. Nothing material occurred in our voyage to Gaspé, our first rendezvous. We arrived at daylight of the 2d June, but neither vessel got in to the anchorage off the entrance of the basin before the afternoon.

The temperature of both air and water fell rapidly as we proceeded to the eastward. The summits and sides of the St. Ann mountains were partially covered with snow, and most of the ravines were still filled with it. Patches of snow remained even on the beaches at Gaspé, and vegetation was only commencing on our arrival, the ice having left the bay only about a fortnight before. Thus it appears that the spring is here from a fortnight to three weeks later than at Quebec, which is more owing to the proximity of a sea filled with ice than to the difference of latitude, which is only two degrees.

On the morning of our arrival, the temperature of the air and surface of the sea were each 40 Fahrenheit: and we thought it very cold after having been accustomed to 60 for some days at Quebec; but we were not prepared for what followed, for, on the 8th and 9th June, the thermometer fell to the freezing point, and we had showers of snow and sleet!

This weather, with a heavy gale from the north, detained us at Gaspé, and convinced us that there was not much use in leaving Quebec for the Gulf before the beginning of June.

13th June. At last we have got away from Gaspé, after six days of bad weather; we have literally had only one fine day. At



10 A. M. perceiving that we outsailed our companion off the wind, we made her signal to proceed to rendezvous, viz. Amherst Harbour in the Magdalen Islands. About noon we were met by a fresh sea-breeze, which usually sets into Gaspé Bay early in the forenoon of every fine day in summer. The previous wind, the N. W., still continued to blow freshly down along the land in the St. Lawrence long after this breeze had set into the bay from the opposite direction. Both winds, however, died away towards the evening, and left us to admire the beautiful scenery about Percé, the hills of which we employed ourselves in sketching.

There is much diversity and beauty in the features of the country about Gaspé and Percé, more so, I think, than in any other part of Canada. Mountains of the height of from one to two thousand feet, with great variety of form, are seen in the head of Gaspé Bay, dividing it into arms, and forming fertile valleys, in which are farms only requiring cultivation, to repay amply the labour of the farmer. These mountains are of secondary rocks, sandstones, and shells, and are wooded to their summits.

The charts will shew that the harbour of Gaspé is one of the finest in the world. The entrance of Gaspé Basin, whether viewed from without or within, is most beautiful; wooded undulating hills rise to the height of 500 feet on either side. Their sides display the bright green fields of a humid climate, composing the farms of the principal families at Gaspé.

The picture is filled up by precipice and sandy points, to which, if a fine clear sky and corresponding blue sea be added, some faint idea may be formed of the natural beauties of Gaspé.

Our duties were of too engrossing a nature to allow us time for visiting, and we therefore saw far less of the good people of this romantic place than we wished; but what we did see of several families residing near the Basin was sufficient to make us regret the necessity of our departure, and to cherish their remembrance with feelings of delight and admiration.

Cape Gaspé, which forms the north point of the bay, is a very remarkable precipitous head-land of limestone. On its north-east side, the perpendicular, and in some places overhanging cliffs, are nearly seven hundred feet above the sea, which incessantly washes their bases, and thus undermines and throws down the rock in large quantities. The flower-pot rock,\* which stands in the sea two or three cables' lengths from the precipitous end of the Cape, is nearly 100 feet in height.

Point Peter, which divides Gaspé and Mal bays, is low and flat, covered with the white houses of the fishermen.

At Percé the scenery is most beautiful. The Percé mountain is 1235 feet above the sea, from which it rises abruptly on the

\* At p. 67 of our first volume will be found a sketch of one of these rocks, so common in the St. Lawrence.



north side, where the precipices of red sandstone and limestone, 670 feet high, are washed by the waves. The remarkable shapes of this mountain, the Percé Rock, and Bonaventure Island, with its red cliffs, the fields, houses, and fishing establishments, form altogether materials for a very beautiful drawing.

The Percé Rock is precipitous, nearly inaccessible, and 288 feet high. The sea washes it all around, and has formed two immense holes quite through it. Boats can pass through these natural tunnels at high water. The inhabitants ascend this rock for eggs in the spring, and to cut the fine natural grass which grows on its summit in autumn. They accomplish this difficult ascent by means of poles and ropes; it is dangerous, and several lives have been lost at different times.

The night of the 13th June was calm and fine, with bright aurora and heavy dew, both these latter circumstances are usually indicative of an easterly wind; accordingly, we had it the following morning, with thick weather, its constant accompaniment in the St. Lawrence.

We discovered our companion early in the morning standing to the eastward on the starboard tack, but soon lost sight of her from the increasing fog and rain. The wind between S. and S. E. increased during the day. At 4 P. M. we had a fresh gale and considerable sea, which brought us to double reefs fore and aft. At 8 P. M. the wind began to abate; at 11 it was calm, with thick fog, and we lay tumbling about in the heavy swell, chafing every thing to pieces; these calms, especially when every thing is wet, do more mischief in a few hours, than a gale of wind of a week's continuance.

Observing that the barometer had fallen three-tenths since noon, whilst at the same time the S. E. gale had died away to a calm, we knew well we should have a smart breeze from another direction, probably the N. W. or N. Accordingly, we soon felt an air so light, that we should not have been able at first to tell its direction, had it not informed us by chilling us to the bone. By 8 A. M. of the following morning, the 15th June, it blew a fresh gale from between the N. and N. N. W. with a cross sea, left by the late south-easter. We carried irregular soundings, varying from 70 to 23 fathoms, over sandy bottom, from Bonaventure Island to the Magdalens. We made the N. W. cape of the latter at 10 A. M., and soon after observed a small schooner at anchor in the open sea, about six miles N. N. E. of Deadman's Island. We were at this time rolling our quarter boats in, so heavy was the sea; it was matter of astonishment, therefore, to us how any vessel could ride in such a situation. We bore up, with two trusty men at the wheel, and passed close under her stern to speak her. She was a fisherman, probably an American, of about 50 tons; for we shot past too rapidly to ask many questions. It was wonderful to



see this little vessel pitch her bows into the sea; she appeared to rise nearly an end, shewing 10 or 12 feet of her keel, with the glittering spray falling in showers from her bowsprit and bows, and then to plunge forward deep into the sea, till she seemed nearly buried beneath the waves; yet when we came close to her, we perceived that she rode less heavily and more dry than we had imagined it could be possible. How she came to be at anchor we had not time to ask, but conjecture that she had anchored in the thick weather, and that, in waiting for the weather to clear, the gale increased so rapidly, that at last she could not get under way. However, she could not hold on long, for about half an hour after we spoke her, she either parted or slipped, and ran for shelter under Amherst Island.

We passed Deadman's Island to windward, at the distance of about three cables' length in 16 fathoms. This islet, or rock, which stands alone in the sea, seven or eight miles from the shore of the main chain of the Magdalens, is extremely remarkable. In shape it is an irregular prism, and about three cables' length long by one wide, as nearly as I could estimate from the vessel; seen end on, it looks like a pyramid, and about 150 feet above the sea. It appeared to be quite inaccessible, and sharp at the top; not a bird was seen on it. The waves foamed around its base, and dashed their white spray far up its sides, beautifully contrasting with the remarkable colours of the rock, which was dark reddish brown at each end, and bluish green in the centre, the colours passing into each other. Seen in such weather, this rock appeared a gloomy and desolate, although beautiful, object.

We ranged along the shore of Amherst Island under close-reefed topsail, double-reefed mainsail and jib, at the rate of eight knots, having a signal for a pilot hoisted, which appeared to be totally disregarded. At 4 P.M. finding the north wind to blow in such sudden gusts as to render it difficult to beat into Pleasant Bay, which we never had the pleasure of seeing before, we anchored under Entry Island in 10 fathoms, fine red sand-bottom, about three quarters of a mile off shore. Here we expected a quiet night, but we had scarcely been at anchor an hour, before a heavy swell came rolling in from the eastward, which bearing upon our beam, as we rode to the north wind, caused us to tumble about most uncomfortably all night. On the next morning, the 16th June, the northerly gale had ceased, and we had a fine warm day with light breezes from the S. E., S. W., and S. At 10, we were under way, and, sounding as we proceeded, arrived at 4 P.M. and anchored in 4 fathoms, fine sand bottom, the entrance of Amherst Harbour bearing N.W. about half a mile distant.

We saw the breakers on Pearl's Reef as we came round Entry Island, and I am certain there must be less than 15 feet over it, as laid down in the charts.



Entry Island is the highest of the Magdalens, and about 400 feet above the sea. There are high and magnificent cliffs of trap porphyry, new red sandstone, and red marl, all around it, excepting the N.W. point, which has a long sandy spit off it. The cliffs of Amherst Island are also red of different shades; these, contrasted with the green pasture of the hill-sides, the darker green of the spruce trees, and the bright yellow of the sand-bars and beaches, produce an effect extremely imposing in a brilliant sunny day like the present, in which we have experienced one of those agreeable changes in the climate, few and far between, which sometimes occur in the Gulf of St. Lawrence; for to-day we have found it necessary to use light clothing, yesterday we were dressed in flushing.

Our fine weather was not of long continuance, for at night a breeze commenced from the eastward, with dark cloudy weather, the approach of which had been indicated by the heavy easterly swell which had been rolling in all day. We expected to have been rejoined by our companion during the course of the day, but, as she did not appear, we concluded that she had bore up, and run back to Gaspé, in the S.E. gale of the 14th.

17th June.—Heavy breezes from E. and E.N.W. with rain—thus do we scarcely obtain breathing-time from one gale of wind before another commences. At midnight the wind had hauled to N.E., right into the bay, blowing a strong breeze: yet we ride easily, and with very little swell.

18th.—Fresh gales N.E., cloudy, with rain. Pleasant Bay, in the Magdalen Islands, deserves its name, for we ride easily, moored with forty fathoms of cable to each anchor. The shoal water, four, five, and six fathoms for miles outside of us, does not perhaps admit of a high sea; however, we will not form too hasty an opinion. P. M. more moderate, rejoiced to see our companion from the masthead, over the sandy point of Amherst Island, beating up alongshore.

19th.—We ascended the Demoiselle, a remarkable hill of Amherst Island, about 260 feet above the sea, and had a magnificent view of the islands; they are composed of mounds of trap amygdaloidal porphyry, piercing through the new red sandstone formation, and joined together by sandbars in such a manner as exactly to resemble the volcanic islands of the Pacific ocean, which are connected together by coral reefs.

Gypsum and iron ore abound on these islands, but no rock salt, although common to the formation, has as yet been found.

There appears no large timber on the islands, only stunted spruce, and the inhabitants are therefore not well supplied with fuel. We inquired where they obtained their wood for building their schooners? "Oh!" they replied, "there is plenty of *wreck timber*—four large vessels came on shore last fall, and we did not get half their cargo of timber, the rest floated off."



A pleasant place this, where the people build their houses, vessels, and boats, of wreck, and reckon upon the supply as constant! However, we must not envy them this advantage, for I believe it is the only supply which can be said to be constant, except fish. Their small quantities of grain, that is, barley and oats, their potatoes and other vegetables, are occasionally destroyed by early frosts, or will not ripen in cold seasons; on these occasions both man and beast suffer severely in the winter months. Fish, seal skins and seal oil, feathers, and gypsum, are, I believe, their only exports.

### VII.—MR. LANG'S SCUTTLE FOR SHIPS.

THE following description of a substitute, invented by Mr. Lang of Woolwich dockyard, for the old scuttle still in use among our merchant shipping, is well worthy the attention of our ship-builders. It consists of a circular copper tube, which is glazed on the exterior side with thick glass. Fearnought is bound tightly round the outside of the tube, and payed with tallow, so as to make it water-proof. It will evidently admit light at all times, and may be freely opened to admit air.

The following references will explain it more fully:—

FIG. 1.

- a The Shelf.
- b Frame Timber.
- c Clamp.
- d Wales.

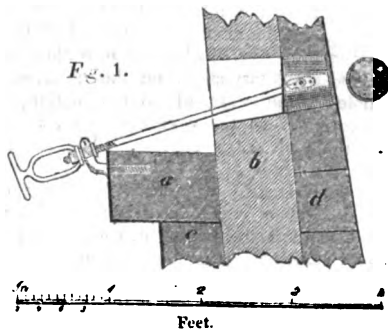
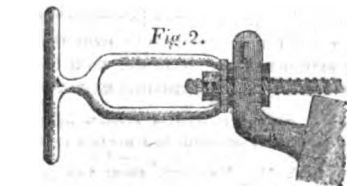


FIG. 2.

- A Spanner for heaving up the nut, and drawing it back as required, to be taken away when not in use.
- B Crutch screwed into the shelf, for the reception of the nut to secure the tube.
- C The nut. It will be seen that fig. 2 is a part of fig. 1 enlarged. By its bearing against crutch on both sides, the nut forces the tube outwards, or draws it inwards, by means of the iron leg attached to it.





This scuttle is fitted to the orlop deck of the *Thunderer*, 84; the lower deck of the *Vernon*, 50; and several other frigates and sloops, as well as smaller vessels. It was invented by Mr. Oliver Lang as long ago as 1823, and is now in general use.

Diameter of the tube	{	For Frigates . . .	6 inches.
		.. Sloops . . .	5 ....
		.. Smaller vessels .	4 ....

## MISCELLANEOUS INTELLIGENCE

### NEW BOOKS.

#### TABLE des Positions Géographiques des Principaux Lieux du Globe. Par M. Daussy. Paris.

This is an elaborate series of latitudes and longitudes, drawn up with much care. One feature we observe in it cannot be too highly commended, namely, that the authorities are given for every position.

#### THE NEW SAILING DIRECTORY FOR THE MEDITERRANEAN, Gulf of Venice, the Sea of Marmora, and the Euxine or Black Sea, &c. By John Purdy. 1834. Parts 1 and 2.

A work of this kind can never be perfect.\* The discoveries which are continually being made in hydrography render such a thing totally impossible; and when such works are compiled by persons who write all they know of places, from the information of others, it becomes an important part of their duty to put the reader in possession of their authority for every piece of information they give. Such a mode, while it inspires the navigator with confidence, acts as a salutary check on the contributor, who, knowing that he is to be quoted as the author of his information, will take care for his own sake that it be correct. In the work before us, an attempt has been made to do this, but not with entire success. We are very glad to have afforded so much valuable matter as we find here copied from our own pages; for instance, the valuable remarks of Captain Middleton on the Dardanelles and Black Sea, besides others which we might point out. And, as the *New Directory* does not inform its readers of it, we will tell them that Captain Middleton is an experienced master in the navy, and that his remarks came from the pages of the *Nautical Magazine*, as well as the views, wood-cuts of which we find in pages 188, 202, 252, &c. of this *New Directory*. We have no objection, as we said before, to see our plumes adorning other works, as long as we have not to tell its readers that they belong to us, more particularly, when we save neither pains nor expense in preparing them.

We shall now assure our own readers, that, excepting some poetry, and other extraneous matter in the work before us, that would be better omitted, it combines the best information extant on the places of which it treats.

\* The truth of this assertion scarcely needs illustration; but the following, which serves to confirm it, may be useful to some of our readers. There is good anchorage under Cape Bon, with the following bearings:—A remarkable rocky point, two miles S.E. of Cape Bon, N.N.E.  $\frac{1}{2}$  E.  $1\frac{1}{2}$  Marabout, about two miles inshore from the west shore of the bay, W. by S.  $\frac{1}{2}$  S. South point of the bay, south about three miles in  $13\frac{1}{2}$  fathoms, good holding sand,  $1\frac{1}{2}$  off shore. The *New Sailing Directory* says nothing of it.



**THE ARCHITECTURAL DIRECTOR**; being an Approved Guide to Builders, Draughtsmen, Students, &c. ; with a Glossary of Architecture. By John Billington, Architect. Bennet, London, 1834. Parts 10 & 11. Price 2s. 6d. each.

The above numbers, which appear to form the conclusion of this valuable work, are occupied by plates of some of the details of the various orders. They are well executed; and the whole work is one which we cordially recommend to our readers who may be desirous of possessing a good and cheap work on the science. We are glad to find it going into another edition.

*Note on Mrs. Taylor's Luni-Solar Tables.*

WE have perused with much surprise and concern, in the last number of the Nautical Magazine, a letter from Mrs. Janet Taylor, which seems intended as a refutation of the view we took, in our preceding number, of her work entitled *Luni-Solar and Horary Tables*. It will be remembered we there supposed that the principal ground of the appearance of her work was the attempt to remove the long-existing errors, with which the writer fancies navigation has been encumbered, from neglecting the effects of the spheroidal figure of the earth in the observations of nautical astronomy.

As any plausible doctrine at variance with established rules, might have the effect of misleading ignorant persons, or at least of shaking their confidence in common practice, and as mere novelty has more respect paid to it than it deserves, we confined our notice chiefly to the *principle* of the work, as above stated; and our objections to it we endeavoured to set forth in the plainest manner we could.

It was natural to expect that an author of ardent feelings might, on the discovery of ancient errors, be eager to point them out, yet a little reflection should have suggested to Mrs. Taylor the probability that a matter so conspicuous could not have been so universally overlooked by preceding writers.\* We gave her an opportunity of tacitly reconsidering the effect of her work, but this she has rejected: she scorns our friendly hints; and, with a zeal worthy of a nobler cause, she insists on the validity of her doctrine.

In this country, where there is no tribunal of science to pass its *imprimatur*, as an authority that a work published for the use of the seaman is fit to be placed in his hands, and as navigation is a matter by which he is to sink or swim, he is exposed to the most serious mischief by the ignorance of unqualified persons who volunteer to instruct him. This consideration, therefore, deepens the responsibility of those who write or review works on nautical science. We do not, indeed, affect to think that the work in question is got up with sufficient skill to obtain many disciples, even on a matter which appears at first very plausible, and certainly there is no chance of practical men adopting a more complicated calculation in preference to a simpler one, from mere attachment to theory. But we have been led into these observations from seeing some of our contemporaries take on themselves the responsibility of gravely pronouncing an eulogy on this very work, without waiting even to examine its claims. That examination we undertook, not only in justice to the author, but to our readers, and perhaps to our national character. For if, through the indiscreet recommendation of a writer in an influential periodical, a work containing erroneous doctrines should pass through successive editions, what opinion could foreigners entertain of the state of navigation in this country?

\* This, however, is not the first attempt to establish similar doctrine; we believe Patrick Murdock first introduced the subject, at least in this country, and he was followed by Ben Martin.



Mrs. T. opens her attempt to refute our opinion of her work, by leading the reader to suppose that the errors which we objected to in it were merely *typographical*; but as we did not allude to a single one of these, we need pursue this point no further. She then defies us to prove there is one instance in which she has laid down an erroneous rule. This we shall see in its order; but in the mean time we beg to assure her, that we did not implicate her at all in the charge of barley-corns; on the contrary, she has done wisely in using only five of the six decimal places for common purposes. Mrs. Taylor then, in allusion to our review, goes on to say, "Had he, as he professes, been well acquainted with his subject, &c. he must have known more about the spheroidal figure, and the necessity of corrections in more instances than the one implied in his note." The note alluded to is this—"The only astronomical observation of those which she discusses, that is sensibly affected by spheroidal figure, is the lunar distance, as has already been pointed out by other authors." Now, as we excepted the lunar distance, and as Mrs. Taylor does not enter on occultations, we think she must have overlooked the words "which she discusses."

In our review, we observed that it was incumbent on a writer introducing a reduced latitude, to publish a list of latitudes so reduced; because, if the seaman, by following Mrs. Taylor's rules, obtain the geocentric latitude, and the tables of latitudes and longitudes give him the astronomical latitude, it is evident that the place of the ship in the chart will be in error. Mrs. T. in answer to this, says, "I did not think it more incumbent on me to reduce the table of *astronomical* to the *geocentric* latitudes, than it would be to reduce the present geocentric to the *astronomical* declinations." This we do not see is quite to the point. But the mere contemplation of such a series of changes as this, sounds rather as an argument for keeping things as they are. There were, however, two ways in which Mrs. T. might have escaped from the dilemma: either by candidly avowing that without such a table her book was absolutely useless, or by introducing a caution to the seaman not to use his geocentric latitude, when he lays the ship's place off on a common chart.

With regard to the *time*, we really had hoped that the united testimony of a common-sense illustration, and an analytical formula, would not altogether have been pleaded in vain. We reminded her, that time is an angle at the pole, and that the horizon of the spectator has nothing to do with the figure of the earth; and we proved in a note that her corrections necessarily destroy each other. Against these independent and incontrovertible positions, Mrs. T. cites a passage in Mackay, which, as every body knows, is wrong, and then proceeds to say, "Were this the case, the result of the two calculations would be the same, which the writer has vainly and obscurely endeavoured to prove in his confused formula, where the hour angle is maintained to be constant."

In answer to this, we will take the case which we quoted:—

Ex. p. 31. Lat.  $39^{\circ} 54' N.$ \* Pol. dist.  $72^{\circ} 49' 3''$ . Alt.  $15^{\circ} 53' 41''$ .

The azimuth, computed from these data, will be found  $80^{\circ} 41'$ ; or, reckoning from the *south*, for correcting the altitude,  $99^{\circ} 19'$ : the correction in lat.  $40^{\circ}$  is  $11' 16''$ †

Sin.  $11' 16''$ —7 5155

Cos.  $80^{\circ} 41'$ —9 2092

Cor. in Alt.  $1' 49''$

Sin. 6.7247

which, subtracted ‡ from  $15^{\circ} 53' 41''$ , leaves  $15^{\circ} 51' 52''$  for the corrected or geocentric altitude.

\* Set down as  $39^{\circ} 35'$  by mistake.

† By Mr. Riddle's Table.

‡ Mr. T. has added this correction.



*The Time computed from the Geocentric Elements.*

Cor. Alt.  $15^{\circ} 51' 52''$   
 Geoc. Lat.  $39^{\circ} 42' 44''$  Sec.  $0.11393$   
 Pol. Dist.  $72^{\circ} 49' 3''$  Cosec.  $0.01983$

---

128 23 39

---

64 11 49.5 Cos.  $9.63876$   
 48 19 57.5 Sin.  $9.87333$

---

5H. 33M. 33s. Var.  $9.64585$

*The Time computed in the common way.*

Alt.  $15^{\circ} 53' 41''$   
 $39^{\circ} 54' 0''$   $0.11511$   
 $72^{\circ} 49' 3''$   $0.01983$

---

128 36 44

---

64 18 22  $9.63705$   
 48 24 41  $9.87386$

---

5H. 33M. 33s.  $9.64585$

Thus, when the case is worked properly, the ghost of the second, that was the pillar of the dispute, has vanished.

The word "confused," which Mrs. Taylor applies to our formula, is not happily chosen: a formula is either right or wrong. We must, however, try to remove from her mind any misapprehension respecting this formula, the rigorous meaning of which is, that as fast as the spectator changes his latitude (the longitude being constant) on any account, the altitude will so vary as to preserve the time constant. Now the change of latitude for spheroidal figure is, notwithstanding its complicated aspect, merely a common change of latitude, as will be seen presently.

Again, Mrs. Taylor is under a mistake when she supposes that the hour angle is "maintained to be constant," for we set out with supposing it to *vary*, but the analysis discovers that it remains constant.

With regard to her example of the altitude, we are at a loss to know what it has to do with the *principle* of the controversy; and as we did not enter on such details in our review, we trust it will not be attributed to any want of courtesy if we omit them now.

With feelings of sorrow, we find that Mrs. Taylor has so mean an opinion of our humble attainments, as to infer from our vague note on the double altitude that we do not know that the two kinds of latitude will agree near the equator. Our view of the double altitude was this:—when the azimuth of the body is  $90^{\circ}$  at each observation, and the correction in altitude consequently nothing, the resulting latitude must be the *astronomical* latitude, and for this plain reason, that the astronomical elements alone are employed. If, therefore, in the example she produces,  $52^{\circ}$  be the latitude resulting from her calculation, it must be the *astronomical* latitude, and the geocentric latitude must be  $51^{\circ} 49'$ , but which can only be obtained by applying the correction *afterwards*.

In our review, we abstained from entering further into the question than the general computations of latitude and longitude called for, because we trusted that the few observations we made were enough to pave the way for the conviction of the writer; but as we have not only failed in that object, but have even called down upon us a general charge of ignorance of the subject, we are compelled to proceed to the azimuth and amplitude, in which we hope to convince, if not Mrs. Taylor herself, at least our readers, to whom we are responsible for the opinions we advocate, that she is altogether in error in applying the above corrections, inasmuch as in so doing she obtains the azimuth of the celestial object at a place where the observer is *not*.

As effects of the spheroidal figure of the earth on astronomical observations are attended with some complication if not taken in the right point of view, we shall be excused for prefacing our examination of the azimuth with a few remarks, which we hope will put the reader completely in possession of the



real nature of the question. If the earth were to become a sphere, the latitude of every place between the pole and the equator would be diminished, that is, the zenith of every place would move along the meridian towards the equator through a certain arc depending on the latitude. Since, then, the meridian would be the same as before while the zenith moved, the only change in the heavenly bodies to the spectator would be that resulting from a change of his latitude, equal in quantity to the arc moved through by the zenith, which arc is called the "reduction of latitude," and is Table 31 of Mrs. Taylor's work. Thus in our latitudes all celestial objects to the southward of the east and west points would rise a small quantity, while those to the northward of east and west would fall; and hence the rule laid down by writers for correcting the altitudes in the lunar distance, for this effect. Therefore, to form a clear idea of the geocentric aspect of the celestial bodies from their apparent aspect on the spheroid, we have only to suppose the concave surface to revolve round an axis passing through the east and west points, and carrying the elevated pole *downwards* through an arc equal to the reduction of latitude.

Now it is evident that if the spectator change his latitude while he keeps on the meridian, he preserves his time the same; hence it is evident that the corrections in latitude and altitude can produce no effect on the computed time, as we hope Mrs. Taylor is by this time prepared to admit. But if he change his place in any direction whatever, he must change his zenith, and with it the azimuth of every celestial object off the meridian, or angle formed at the zenith. Now the azimuth of a body, as commonly computed, is the true *astronomical azimuth*, as it would be observed by an instrument at the spectator, because the horizon of his place is independent of every other. But if the latitude of the place used in computing the azimuth be reduced, and the altitude likewise be reduced to correspond, then the azimuth resulting is in like manner the azimuth as it would be actually observed *at that latitude*. Hence when Mrs. Taylor corrects the azimuth with a view to obtain a more correct result, she is merely computing the azimuth of the body at the same instant, as seen at another place.

We have now concluded the remarks which the reply of Mrs. Taylor has rendered necessary. Whether they may induce her to consider our former review of her work in a more favourable light than she has done, or whether they may fail in leading her to revise her theory, we cannot say; but having taken up her work on strictly scientific ground, we have allowed no extraneous consideration to lead us from the candid and impartial review of its contents, that is demanded by works of the kind.

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#### NEW CHARTS.

**NAPAKIANG ROADS** in the island of Loo Choo. By Captain F.W. Beechey, R.N., F.R.S. 1827. Admiralty. Price 4s. No. 1729.

This plan, one of the last fruits of the Blossom's voyage in 1827, exhibits distinctly the channels and anchorage of the sea-port of the interesting Loo Choo islands. The scale is about three inches to the nautic mile, and the whole will be a valuable acquisition to our free traders. We observe that sketches of the land are happily introduced as leading marks.

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**THE OUTER BAY OF AWATSKA.** By Captain F. W. Beechey, R. N. F.R.S. Admiralty. Size, half double elephant. Price 3s. No. 2097.

This is also one of the results of the Blossom's voyage to Behring's Straits; and it likewise contains two very well-executed views of the Entrance to Awatska Bay, with the volcano and the stupendous peaks in the vicinity.



**TRACKS THROUGH THE BARRIER REEFS** of New South Wales. By Captain Ashmore and others. 1822 to 1830. Admiralty. Price 8d. No. 2103."

Although it is pretty generally allowed that the Inner Passage from Sidney to the northward is to be preferred, still there are, no doubt, many cases where ships, either from choice or accident, take the outer voyage, and enter the reefs by one of these passages. It was no doubt with a view to this, that the above little chart was constructed; for though a hydrographer may recommend what he considers the most eligible course, it is clearly his business to furnish the seaman with the means of choosing for himself.

**WEST INDIES; sheet 2.** From the Providence Channels to the Windward Passage. By Commander Richard Owen. 1831-32. Admiralty. Size, half double elephant. Price 3s. No. 816.

From the number 2 on the sheet, it appears that this is one of a series of charts preparing by the Hydrographic Office for the navigation of the West Indian Seas, and which kind of charts is so much wanted in most parts of the world. The old general chart of the West Indies was too large in size for the daily work of such a sea, and too small in scale for a near approach to the land.

This chart includes half of the Bahama Channel, and some of those much frequented passages to the eastward of the Bahama Islands.

**METEOROLOGICAL REGISTER** for 1834, kept at Greenwich, arranged by A. B. Becher, Lieut. R.N. Baldwin & Cradock.

An improvement has been introduced here by Lieutenant Becher, by which we find the daily observations of the thermometer and barometer are more easily read off than in that of 1833. These charts of the weather will afford an interesting and useful mode of comparison with each other, both to the curious and the scientific.

**PORT WILLIAM—Yorkshire Coast.** We understand that Mr. Cubitt, the celebrated engineer, at the desire of the committee for constructing this harbour, has recently visited Redcar, with the view of reporting on the intended operations at that place. The report of this gentleman, a copy of which will be found in our next number, amply confirms all that has been advanced by Mr. Brooks, the original projector; and we consider it highly creditable to this gentleman, as well as most favourable to the accomplishment of the harbour, that it should receive unqualified approbation from so high an authority. Mr. Cubitt says that it will not cost more than one-half what Kingstown Harbour (Dublin Bay) has done, while it will be twice the size, and have ample depth at low water. The fact is, as we have repeatedly said, nature has already more than half done the job.

**M. BLOSSEVILLE.**—In July, 1833, this officer, in command of the Lilloise man-of-war brig, left Dunkirk, with orders to protect the whale-fishery on the coast of Iceland. M. Blosseville was also directed to avail himself of the opportunity of exploring a part of the coast of Greenland. No intelligence having been received of the Lilloise since the month of August, 1833, in May last, the Bordelaise brig of war was sent in search of her, by the French



Government, but without success. We understand that M. Trehouart, commanding a sloop of war, is now fitting, for the purpose of following up the search. But, to discover and relieve the unfortunate navigator, who may be overtaken by misfortune, is a common cause, and one in which our countrymen need no emulation. An English whaler saved Ross and his companions, and an English whaler may possibly save the French navigator. It is supposed that he will be found on the east coast of Greenland, perhaps to the northward of 68°.

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*To the Editor of the Nautical Magazine.*

SIR,—In an article on the “History of Steam-Navigation,” in p. 206 of Chambers’ Historical Newspaper for December last, after mentioning the Marquis of Worcester’s allusion to the art, in his celebrated “Century of Inventions,” the writer says, “We have seen a drawing of the steam-vessel of Jonathan Hulls, with which an experiment was made about the year 1739, although in a rude and inefficient manner.” May I take the liberty of requesting, through your pages, that the writer will refer me to the account of the “experiment” made, as I have been unable to ascertain that the experiment of towing a large ship by a steam-vessel was actually performed as represented in Jonathan’s pamphlet.

Yours, &c. Q.

[We must refer our correspondent’s letter to the editor of the northern journal, who, if he can, will no doubt supply the required information. It is a curious fact in the history of steam, that previous to 1671 it was applied in the kitchens of our forefathers, from the *Æolipile*, to work machines for blowing the fire, and turning the wheels of spits. Ed.]

HEARLE’S AND MASSEY’S PUMPS.—Another trial of these Pumps was made lately, on board the *Pique*, in the presence of the Capt. Superintendent Ross, Captains Fanshaw, Wilson, and Tremlet; Builder Roberts, and his Assistants, and Mr. Walker, Master Attendant, as well as many other scientific gentlemen. Water was admitted in the hold of the *Pique* to the depth of 16½ inches on the keelson, in each experiment, when Hearle’s pump, worked by six men, diminished the depth of water 1½ inches in six minutes and ten seconds; Massey’s pump worked by twelve men raised a similar quantity of water in three minutes and thirty seconds. The same pump in the second trial raised a similar quantity by eight men in six minutes and ten seconds; Hearle’s force-pump was then worked by six men, and the nozzle of the delivery hose raised into the main-top, when a steady stream of water was projected to the height of the main-top-mast head. Six men then worked Massey’s force pump; the water came out in jets, each falling short of the distance attained by Hearle’s experiments: eighteen men were subsequently put on, but even then a full stream was not obtained. One thing presents itself to our notice which is not developed by these experiments, namely, the portability of Hearle’s, so that it can be applied in case of need to any part of the ship, whilst the other is a fixture.—*Plymouth Journal*.

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BRITISH SHIPPING.

THE following extract from the *Times* contains so complete a summary of the benefits conferred by the Legislature on British Shipping within the last few years, that we give it entire:—

“In our paper of Wednesday we inserted a report of the proceedings of the annual meeting of the Ship-owners’ Society, held on Tuesday last, at the City



of London Tavern; and although we have not much time or space to devote to the subject, it is one of such general interest, that we cannot pass it over without some notice. We have always been ready to pay a just tribute to the zeal and activity of the committee; but it has been our misfortune to differ from them in the general views they entertain of the causes of the depression of the shipping interests, which from their own statements upon this occasion do not appear attributable to a want of employment, as, according to the returns of the tonnage of ships that have entered the port of London, (no statement of the tonnage for the United Kingdom is given,) it is in evidence that the navigation of the river Thames with foreign parts has greatly increased; nor is it less satisfactory to observe, notwithstanding what has been alleged at the meeting, that British shipping has fully participated in such increase. We are content to abide by the documents referred to by the hon. member for Sunderland, which show an increase in the tonnage of loaded ships that entered the port of London from foreign ports during the last two years, as compared with 1832, of no less than 166,638 tons, being an augmentation of upwards of 20 per cent.; of that tonnage, 104,518 tons were British, and the remainder 62,120 tons foreign, the relative proportions being as to British 63 per cent., and as to foreign only 37 per cent. It would be really a waste of words, therefore, to offer an additional observation in refutation of the often-told tale of the declining employment of British shipping, and the great preponderance of foreign.

"A most undeserved charge is also brought against the Legislature in the resolution moved by the hon. member, amplified by some observations from other of the speakers upon the occasion, setting forth that no permanent improvement can take place until the British ship-owner, in common with every other interest in the state, receives from Parliament due protection; and reproaching the Legislature with having been regardless of their interests, and having, even in matters of regulation, done them injury. Surely the ship-owners cannot have forgotten what has been done by Parliament for them during the last ten years; and if they have not, what pretext is there for the charge! Has not the shipping of this country an exclusive protection in the coasting trade, the colonial trade, and the fisheries? Does it not enjoy peculiar protection under the navigation laws, which restrict the importation of goods for home consumption from Asia, Africa, and America, to British ships? and also as respects the enumerated articles "sub modo" from the ports of Europe. And are not these exclusive privileges, amounting to monopolies granted to the shipowner, at the expense of the consumers of the commodities, the price of which is enhanced by the augmentation of freight?

"But let us see whether Parliament really has been inattentive to the shipping interests. Since the year 1824 a consolidation of the laws of customs, excise, and of navigation, has taken place. Upwards of 1,300 useless and obsolete statutes relating to commerce and shipping have been repealed; acts have passed to separate the Customs from the Excise, and to reduce the fiscal regulations into a simple and compendious form; various laws have passed for improving the bonding system, whilst additional security has been afforded the shipowner in the means of attaching freight in the hands of the several dock companies; the registry of shipping, pilotage, quarantine, have all undergone a laborious revision, and the laws relating to smuggling have been ameliorated; the stamp duties upon the sale and transfer of shipping have been repealed, and relief given in those upon marine insurance; the law requiring bonds from masters and mates of ships at the time of clearing outwards has been repealed, improved regulations introduced in respect to passengers and ship's clearances, and inordinate fees and charges upon shipping in the colonies abolished, and consular fees regulated; the duties upon the importation of materials used in ship-building and fitting have been reduced; shipowners per-



mitted to supply their vessels in British ports with foreign provisions and stores without payment of any duty; effective protection has been afforded to British shipping against the discriminating duties imposed by foreign states by the means of commercial treaties, or retaliatory measures of a countervailing fiscal character; upwards of 60,000*l.* in light duties, &c. have been remitted, and several thousands of pounds per annum saved to shipping by a reduction of the Ramsgate and Dover harbour dues; the tonnage duty on shipping, generally, has been repealed; a great reduction effected in the burdens upon ships by the repeal of nearly the whole of the port of London dock-dues, amounting to upwards of 30,000*l.* per annum; and the expenditure, of the port establishment greatly diminished. By the refusal of Parliament to revive the exclusive privileges of the East India-docks, West India-docks, and London-docks, shipping have been relieved from oppressive dues, and protection established by means of open competition; laws have been passed to regulate seamen and apprentices, and improve the mode of recovery of seamen's wages, the navigation with the Indian seas by British ships, and the ports of the continent of Europe, extended, and trade with China thrown open; great amplification introduced under parliamentary authority in the conduct of the business of the Customs and Excise, many useless oaths abolished, and amongst other measures an act passed last session for the benefit of the merchant-seaman's widow.

We could, indeed, swell this catalogue with the recital of many other acts of the Legislature which have been passed for the improvement of commerce and navigation; but we think enough has been referred to, to shew with what truth Parliament has been blamed for a want of attention to the shipping interests. Let the shipowners point out, if they can, any other interest which has during the last ten years engaged so large a portion of the attention of the Legislature, and derived such important advantages from the fostering care of Parliament. If they wish to deserve a continuance of it, let them abstain from pressing claims which have no good foundation, and urge matters of improvement with temper and judgment. The disposition of Parliament to relieve them from any unnecessary burdens has been sufficiently proved to offer the best guarantee that the shipping interests of this country will never be neglected; but it is highly important that existing circumstances, connected with our commercial policy, as respects the intercourse with foreign nations, should be duly weighed, seeing that this country is not in a condition, as in the time of Cromwell, to dictate to the world the terms upon which the ocean is to be navigated.

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#### MR. HALL'S STEAM-ENGINE IMPROVEMENTS.

As all improvements in the steam-engine materially concern our naval friends in steam-vessels, we have extracted the following particulars from that valuable work, the *Mechanic's Magazine* :—

Sir,—You have done me the favour to draw the attention of your readers, more than once, to my improvements in the steam-engine. Permit me now to state, that I have obtained patents for these improvements for England and the colonies, Scotland, Ireland, France, Belgium, Holland, Prussia, Austria, and the United States of America;\* and to subjoin a summary of the important advantages which are found in practice to result from them.

The leading feature of my invention, as you are aware, consists in effecting the condensation of the steam from the working cylinder, without injecting water into the condenser, which in most cases contains impurities, by which

\* It is my intention to dispose of half of each of my foreign patents to some respectable persons, who will respectively undertake the superintendence of them, and shall be glad to treat with any person wishing to become a purchaser.



means I am enabled to employ the same water constantly, over and over again, to furnish steam; and the boilers being once charged with pure water, it will always continue to be in that state, however long it may be used, and by very simple means the needful portion of distilled water is produced to supply any waste that may arise in working the engine: and all the steam that usually blows away at the safety-valves is secured, and the distilled water (resulting therefrom) is returned to the boilers.

Engines with my improvements applied to them have been at work nearly three years, and, amongst the advantages which they possess, and which are confirmed by experience, are the following:—

1. A saving of fuel amounting to fully one-third of the ordinary consumption.

2. A very considerable increase of power, arising from several parts of the invention.

3. The rapid destruction of the boilers from the corrosive action of sea-water, or from incrustations of earthy matter, is completely prevented, and without ever requiring cleaning, they remain constantly clean and effective; no matter how long they are used.

4. The water in the boilers is constantly maintained at the same height, without any attention on the part of the fireman; thus obviating, in marine engines, the risk, on the one hand, of their being burned out by the neglect of the attendant to keep them sufficiently supplied with water, and, on the other hand, the danger arising from water passing with the steam into the cylinders, when the boilers are too full, whereby accidents of the most serious nature are frequently occasioned.

5. As no deposit of any kind can ever take place in the boilers, no blowing off of water on account of its accumulated impurities is necessary, and the boilers remain constantly in the most clean and efficient state for generating the steam, by which means, principally, the great saving of fuel above-mentioned is effected.

6. Smaller boilers are required with the improved engines than with the common ones; which latter require the boilers to be made so large as to generate sufficient steam, even when they are coated with scale, being of course much larger than is necessary when they are clean, as also on account of their requiring the dirty water (which is boiling) to be blown off frequently, and to be replaced with cold water. Hence, by means of my improvements, a diminution of the first cost of the boilers is effected, and less space is occupied by them, which in a steam-vessel is a point of great importance.

7. A much better and steadier vacuum is obtained than in the injection engines, in which latter a large quantity of air is carried by the injection-water into the condenser, whereby the vacuum is injured; the engines likewise act as correctly and powerfully when their speed is very irregular (whether owing to tempestuous weather and heavy seas, or to any other cause,) as when their motion is uniform; whereas, in common marine engines great care is required to regulate the injection-water into the condenser; for, as the vacuum causes the injection-water to enter the condenser as rapidly when the engines are going at a slow, as when they are going at a fast speed: and as it is impossible to regulate the quantity of injection-water according to the irregularity of the speed of the engines, great danger arises on the one hand of choking the condenser and air-pump by the admission of too much water when the engines are going slow; and on the other hand, of deducting greatly from the power of the engines, by deteriorating the vacuum when the speed is great, and the quantity of water injected is too little.

8. The injury done to the air-pump by water impregnated with saline



matter, or containing extraneous substances, is avoided ; and, as none but fresh water enters the pump, copper or gun-metal rods, buckets and linings become unnecessary, and the power required to pump the injection-water out of the vacuum is saved.

9. The oil employed for lubricating the piston is not wasted, but enters the boilers along with the water from the air-pump, and may be drawn off, and used again and again, so as most abundantly to lubricate the pistons and valves.

In confirmation of the above statement of the advantages obtained from my improvements, I subjoin a copy of the Report of Captain Martin, of the City of London steam-packet, and also the Report of Captain Wright, of the Prince Llewelyn steam-packet, on board of which vessels my improvements have been in operation a considerable length of time.

The St. George Steam-packet Company, after a careful investigation of the subject by a deputation of their engineers, who examined several engines in operation upon my principle, ordered a trial of it to be made on board the Prince Llewelyn ; the result of which was so satisfactory, that they have executed an agreement with me for the immediate alteration of all their engines, amounting in the whole to 1880 horse-power. They have subsequently got a pair more engines to work aboard the Air steam-boat, which are giving equal satisfaction ; and they are preparing the needful apparatus for the engines aboard various other steam-boats.\* The General Steam-Navigation Company have also adopted my improvements on board the City of London ; and the Lords of the Admiralty having directed their engineers to examine their effect on board this vessel, have received a report so highly favourable (a copy of which is annexed,) that I have every reason to believe that they will also be adopted shortly on board his Majesty's steam-vessels. The principle has likewise been applied to several land-engines in different parts of the country, and they are working in the most satisfactory manner.

In conclusion, I would remark, that the improvement may be readily applied to engines already constructed, without derangement of the parts, and without stopping them more than two or three days ; and, that in new engines the additional cost will be inconsiderable.

I remain, Sir, your most obedient servant,  
SAMUEL HALL.

*Copy of a Letter from Captain K. B. Martin.*

City of London steam-packet, St. Catherine's Wharf, July 9, 1834.

Sir,—In consequence of your request relative to a report on Mr. Hall's patent, now on trial in the City of London, I can assure you I am perfectly satisfied as to its present actions, and have every reason to believe that some trifling improvements will confer still more important results ; and, first, as to speed, I believe the vessel to have been nearly at the top of her speed last year, and when the improvement in the Magnet is considered, it convinces me that in fair weather, and smooth water, we are rather faster than her ; but with equal pleasure I add, that in a contra gale, and head sea, the action is much superior to the injection-engine, in consequence of the vacuum being so perfect. On the 4th of July, in a heavy sea and head-wind, we passed round from Ramsgate to Margate in fifty-five minutes ; and on the 7th, although we had a

\* Mr. Hall's modesty has prevented his mentioning another fact of some interest, namely, that the St. George Company, besides entering into the contract mentioned in the text, have presented him with a gold snuff-box of the value of 150 guineas, in token of their sense of the important services which he has rendered to steam-navigation by his present improvements. The inscription bears the appropriate epigraph of "Scientia et labore."—ED. M.M.



fair wind and sail set, we did not accomplish the distance in less than fifty minutes. Last year, under similar circumstances, in the rough weather, we should have been an hour and twenty minutes; and the quickest passage the vessel ever made, under the most favourable help from sail and fair weather, between Ramsgate and Margate, was forty-four minutes; her average time was fifty-five minutes in smooth water. I can refer you to Mr. Braithwaite, who was on board several times, and delighted with the action of the vessel in a head-sea, and opposing wind.

The saving of fuel is about a ton per average passage, or six tons per week. The boilers when last opened were free from scale, and that part of them which I have remarked oxides or rusts quickest, (viz. the edges of the water-line,) being lubricated by the oil which floats on the water-surface, is preserved from that destructive effect.

The oil is not yet of sufficient depth on the surface of the water in the boiler to draw off for use; but as soon as it is, I am disposed to think there can be no waste of what is used for the pistons, as it is returned again and again into the boiler, and, except in the case of new packing, has nothing to absorb it, or any where to escape. Thus much for the engines, which I believe susceptible of still further improvement; and, as respects the vessel, I think her now better prepared, and more staunch, for another ten years of service in the Ramsgate trade, than when I had first the pleasure of receiving her from the hands of the builder.

I have the honour to remain,

Your obedient servant,

K. B. MARTIN.

Charles Bessell, Esq.  
Secretary, General Steam-Navigation  
Company, 69, Lombard-street.

*Report to the Lords Commissioners of the Admiralty.*

(COPY.)

Admiralty, Sept. 15, 1834.

Sir,—In compliance with the request contained in your letter of the 11th instant, I am commanded by the Lords Commissioners of the Admiralty, to send you herewith, a copy of the Report of Messrs. Lloyd and Kingston upon your improvement in the steam-engine.

I am, Sir, your most humble servant,

Mr. S. Hall, Basford, Nottingham.

JOHN BARROW.

(COPY.)

Woolwich-yard, Aug. 7, 1834.

Sir,—Agreeably to your minute of the 1st instant, directing us to inspect, and report upon, the apparatus for the condensation of steam, invented by Mr. Hall, and fitted by that gentleman on board the City of London, we beg to state, that, on the 5th instant, we proceeded in that vessel to Ramsgate, and returned in her on the following day.

During the time we were on board, we had a full and satisfactory examination of the means employed to effect the above object, and also of the results produced by them.

We now beg to lay before you the principal evils arising from the common mode of condensation, which is by the injection of cold water; the manner in which the steam is condensed by Mr. Hall; and our opinion, founded upon the actual performance of the engines, of the efficiency of the means which he has employed.

As condensation is now effected, the greater part of the condensed steam



never returns to the boilers, because it is mixed with a far greater quantity of injection-water; which, when the vessel is at sea, must of course be salt-water: hence, in this case, steam, which contains no salt, is continually leaving the boilers; and water, almost as salt as sea-water, is continually supplying its place. The consequence of this would be, if no means were taken to prevent it, that the boilers would in a short time be entirely filled with salt.

In order, however, to prevent this, a portion of the water in the boilers, which is considerably saltier than sea-water, is periodically driven into the sea, and its place supplied with water a little less salt than the sea—the condensed steam forming a small portion of it. The water in the boiler is, in this manner, kept from exceeding a certain degree of saltiness; but, whatever care is taken, in long voyages especially, salt will accumulate, and sometimes in great quantities, and of great hardness, so that it is with difficulty it can be removed. Boilers are thus often injured as much in a few months as they would otherwise be in as many years.

The other evil necessarily resulting from this state of things, is (besides the rapid destruction of the boilers) a great waste of fuel, occasioned by the difficulty with which the heat passes through the incrustation on the inside, by the leaks which are thereby caused; and by the practice of “blowing out” periodically, as before mentioned, a considerable portion of the boiling-water.

The obvious, and indeed the only, method to prevent the evils we have just described, is to return to the boilers the whole of the condensed steam; and this can be effected in no other way than by condensing it by means of cold surfaces, without any admixture of sea-water. This is accomplished on board the City of London, by means of a vast number of small thin tubes, into which the steam passes, and the heat is abstracted from it by an abundant supply of cold water on the outside, the whole being contained in two iron casings, each of which is about six feet long, four feet high, and five feet wide, placed at the fore-part of the engines, which are of the collective powers of 100 horses.

Such a mode of condensation is a desideratum which, for many years, has occupied the attention of engineers, and others; but we may safely assert, that very little success has hitherto attended their efforts. The application of Mr. Hall's method, however, is so successful as to leave nothing to be wished for. The power of the engines is not, in our opinion, diminished: and there is no reason to fear that the apparatus will not be durable, as it is not exposed to a degree of heat sufficient to injure it.

We have omitted to mention many advantages which would be derived from the application of this system of condensation; such as increased durability of certain parts of the engines, and the prevention of accidents, through carelessness, or otherwise, arising from the condenser and air-pump becoming choked with injection-water; and the additional security against the boilers being burnt, in consequence of the water in them being suffered to get too low. These advantages, and all others, appear to us of secondary importance, when compared with the great increase of the durability of the boilers, and the saving of fuel, which must necessarily obtain.

We may observe, in conclusion, that the means of preventing a waste of steam when the engines are stopped, and the supplying of the boilers with distilled water, to make good the loss occasioned by casual leakage, have been well considered by Mr. Hall, and he has adopted some ingenious and practicable contrivances to effect all that is necessary.

(Signed)

We are, &c.

T. LLOYD.

JOHN KINGSTON.

Captain Superintendent Warren, C.B.



## NAVAL COURT MARTIAL.

A Court Martial was assembled on board his Majesty's ship *Magnificent*, at Port Royal, Jamaica, on Dec. 3rd, and continued by adjournment the two following days, for the trial of Commander M'Causland, of his Majesty's ship *Cruiser*—Capt. C. B. Strong, President, on the following charges:—

"That, between the 1st of August and 8th of September, he had charged several individuals certain sums of money for their passage from San Juan di Nicaragua and Chagres, to the island of Jamaica, in his Majesty's sloop *Cruiser*.

"That he had shamefully treated the said passengers by acts of oppression, &c.

"That he had caused a minute search to be made of the passengers' luggage, and exposed the ladies' clothes in an indecent manner."

*Sentence.*—"The Court are of opinion, that the first charge of having charged certain sums of money for their passages in his Majesty's ship *Cruiser*, under his command, from Nicaragua and Chagres to Jamaica, is not proved, it appearing in evidence that Commander M'Causland did, under the circumstances in which he was placed, while conveying the mails, render himself liable for the expenses incurred in entertaining at his table the individuals in question, and that he was justified in receiving from them a remuneration for the outlay which they occasioned to him by being accommodated at his table. That the second charge of the passengers on board the *Cruiser* having been shamefully treated, is not proved—the complaints of the said passengers being vexatious and unfounded. That the charge of having minutely examined the passengers' luggage, previous to its leaving the ship, is proved, but was justifiable under the circumstances detailed in evidence; but that there was no indelicate exposure of the ladies' clothes, and that the imputation to that effect by the passenger who was present, is false and malicious. And the Court doth therefore adjudge the said Commander M'Causland, of his Majesty's ship *Cruiser*, to be fully acquitted of all the said charges, and he is hereby fully acquitted accordingly."

The President returned Commander M'Causland his sword, saying—"Commander M'Causland, I have great pleasure in returning the sword which you have so long worn with credit to yourself, and advantage to your country; and I congratulate you on the issue of this inquiry, which leaves your character unsullied, and justifies the honourable testimony of your friends." Immediately upon the delivery of the above, Com. M'Causland received the warm congratulations of his numerous friends, who had testified throughout the utmost anxiety for his welfare. On approaching his own vessel, he was loudly cheered by the whole crew, by whom he is highly esteemed for his estimable qualities as a commander and a gentleman.

The result of this trial is most gratifying to the mercantile community. The character of the accused is not only *not* impeached by it, but more exalted, if possible, in the estimation of his friends. It has also established another point, that, while ships of war are employed in conveying mails, their commanders are entitled to receive a remuneration for the outlay occasioned by passengers who are accommodated at the captain's table.—*Jamaica Paper*.

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**HISTORY OF BRITISH FISHES.**—The first part of a work bearing this title, is announced to appear on the 2d of March. It is one of those which we have no doubt will be patronized by naval men.



## Nabal Register.

COMMISSIONERS for executing the Office of LORD HIGH ADMIRAL of the United Kingdom of Great Britain and Ireland.

The Right Honourable Thomas-Philip-Weddell Robinson, Earl De Grey.  
 The Right Honourable Sir George Cockburn, G.C.B., *Vice-Admiral of the Red,*  
*and Major-General of Marines.*  
 Sir John Poo Beresford, Bart., K.C.B., *Vice-Admiral of the White.*  
 Sir Charles Rowley, K.C.B., *Vice-Admiral of the White.*  
 The Right Honourable Anthony Viscount Ashley.  
 The Right Honourable Maurice Fitzgerald.

*First Secretary*—The Right Hon. George-Robert Dawson.  
*Second Secretary*—Sir John Barrow, Bart., L.L.D., F.R.S.  
*Hydrographer*—Captain F. Beaufort, R.N., F.R.S.

THE ROYAL NAVY IN COMMISSION—FEBRUARY 21st, 1834.

c Date of Commissioning.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B. *Appointed* 23d Jan. 1833. *Flag-Lieut.*  
 T. B. Eden; *Secretary*, Thomas Williams.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H. *Appointed* 27th April, 1833.  
*Flag-Lieut.* C. H. M. Buckle; *Secretary*, J. Loudon.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming. *Appointed* 16th Aug. 1834. *Flag-Lieut.*  
 Granville G. Loch; *Secretary*, B. Chimmoo.—*Flag-Ship*, OCEAN, 80.

ACTEON, 28.—Captain Lord Edward Russell, Portsmouth, about to sail for South America.

ASTREA—Captain A. King, foreign packets, Falmouth.

CAMELEON, 10—Lieut. Com. J. Bradley, Portsmouth, fitting.

DUBLIN, 50—Capt. C. Hope, Plymouth, fitting, said for the flag of the Commander-in-Chief on the South American station, instead of the Spartiate.

EXCELLENT, late BOYNE—Captain T. Hastings, Portsmouth, for the practice of naval gunnery.

PORTSMOUTH, *Yacht*—Lieut. Com. J. Maitland, Portsmouth.

OCEAN, 80—Captain A. Ellice; Sheerness.

PIKE, 12—Lieut. Com. A. Brooking, Plymouth, fitting.

PRINCE REGENT *Yacht*—Captain G. Tobin, C.B., Deptford.

RATTLESNAKE, 28—Capt. W. Hobson,

Portsmouth, fitting. About to sail for the East Indies.

ROLLA, 10—Lieut. Com. F. H. H. Glasse, 4th Feb. moved out of the basin at Sheerness.

ROVER, 16—Com. C. Eden, at Plymouth, fitting.

ROYAL GEORGE *Yacht*—Captain Right Hon. Lord A. Fitzclarence, G.C.H., Portsmouth.

ROYAL SOVEREIGN *Yacht*—Captain C. Bullen, C.B., Pembroke.

ROYALIST—Lieutenant C. A. Barlow, Plymouth, fitting.

SAN JOSEF, 110—Capt. G. T. Falcon, Hamoaze.

SCYLLA, 18—Com. E. J. Carpenter, 12th Feb. moved out of basin at Sheerness.

SEAFLOWER, *Cutter*, 4—Lieut. Com. J. Morgan, 12th Feb. sailed for Jersey.

SPEEDY, *Cutter*—Lieut. C. H. Norrington, Portsmouth station.



VICTOR, 18—Com. R. Crozier, Portsmouth, about to sail supposed for the East Indies.  
 VICTORY, 104—Capain R. Williams, Portsmouth.

WATERWITCH, 10—Lieut. Com. J. Adams, Portsmouth, undergoing extensive alterations and repairs.  
 WILLIAM AND MARY, *Yacht*—Captain S. Warren, C.B., Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage. *Appointed* 9th April, 1834. *Flag-Lieut.* James L. Parkin; *Secretary*, John Irving.—*Flag-Ship*, HASTINGS, 74.

CASTOR, 36—c May '32, Capt. Rt. Hon. Lord John Hay, 26th Oct. in the Tagus.

HASTINGS, 74—c April '34, Captain H. Shiffner, in the Tagus 1st Feb.

LEVERET—c Dec. '31, Lieut. Com. G. Traill, 1st Feb. in the Tagus.

NIMROD, 20—c April '32, Com. R. Fair, 6th Feb. arrived at Lisbon.

PIQUE, 36—Capt. the Hon. H. J. Rous, 2d February sailed from Plymouth

for Lisbon. Expected to return to Spithead.

RINGDOVE, 16—c Nov. '33, Com. W. F. Lapidge, 4th January at Santander.

SARACEN, 10—c Nov. '33, Lieut. Com. T. P. Le Hardy, 5th June arrived at Lisbon from Cadiz.

STAQ, 46—c April '31, Capt. N. Lockyer, C.B., 13th Jan. at Cadiz from Lisbon; 1st Feb. in the Tagus.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B. *Appointed* 18th Dec. 1833. *Flag-Lieut.* H. B. Young; *Secretary*, T. Triphook.—*Flag-Ship*, CALEDONIA, 120.

BRITANNIA, 120—c Aug. '31, Captain P. Rainier, 31st Jan. arrived at Spithead; 4th Feb. moved into harbour.

CALEDONIA, 120—c May '33, Capt. T. Brown, 18th Dec. at Vourla.

CANOPUS, 84—c Nov. '33, Hon. J. Percy, 12th Nov. and 27th Dec. at Vourla.

CARRON, St. V.—c Oct. '32, Lieut. Com. J. S. Duffil. See Steam Vessels.

CEYLON, 2—c Feb. '34, Lieut. J. G. M'Kenzie, Malta.

CHILDERS, 16—c May '34, Com. Hon. H. Keppel, 27th Dec. left Malta for Vourla.

COLUMBINE, 18—c June '34, Com. T. Henderson, 27th Dec. arrived at Malta from Vourla, sailed 19th; sailed 1st Jan. for Vourla.

EDINBURGH, 74—c Oct. '33, Captain James R. Dacres, 27th Dec. at Vourla.

ENDYMION, 50—c June '33, Captain Sir Samuel Roberts, C.B., 27th Dec. at Vourla.

FAVORITE, 18—c Aug. '33, Com. G. R. Mundy, 27th Dec. at Tripoli.

JASEUR, 18—c Nov. '33, Com. J. Hackett, 11th Jan. at Gibraltar.

MALABAR, 74—c July '34, Captain Sir W. A. Montagu, K.C.H., 27th Dec. at Vourla.

MEDEA, 6—c Jan. '34, Com. H. T. Austen, 5th Jan. at Malta.

ORESTES, 18—c June '34, Com. H. J. Codrington, Nov. on the coast of Spain.

PORTLAND, 52—c May '34, Captain D. Price, 27th Dec. at Vourla.

REVENGE, 78—c March '34, Capt. W. Elliott, C.B., 3d Dec. sailed from Malta for Toulon; 27th Dec. at Vourla.

SCOUT, 18—c July '32, Com. W. Holt, 2d Jan. arrived at Malta from Smyrna.

TALavera, 74—c March '31, Captain E. Chetham, C.B., 18th Dec. left Vourla for England; 20th Jan. arrived at Plymouth, 23d moved into Hamoaze.

THUNDERER, 84—c Oct. '33, Captain W. F. Wise, C.B., 27th Dec. at Vourla.

Extract of a letter from an officer on board of one of his Majesty's ships in the Mediterranean, dated the 20th of October, 1834 :—"We have been in company with the Thunderer, which ship is the admiration of every body, and considered to be the finest man-of-war of her class. She is decidedly the best sailer in the fleet, on



all points. She has an additional lower-deck, where she carries troops or stores, and provisions, as occasion may be, for the fleet, without interfering with her crew, or taking out any of her guns. Her magazine is in midship, and is found to be very advantageous in firing the guns with dispatch, and more safe from fire, being very low in the ship, and surrounded by water in the hold. She carries her lower-deck-ports much higher from the water than any line-of-battle ship in the navy, and has a most majestic appearance."

Extract of a letter from an officer on board of H.M. steam-vessel Spitfire, in the Mediterranean:—"The Thunderer, 84 guns, took up for the fleet three months' provisions and

stores; the Britannia, 120 guns, only taking six weeks'; and yet the Thunderer beats them all in sailing. So much for Mr. Lang's plan of stowage."

TRIBUNE, 24—c May '34, Captain J. Tomkinson, 23d Nov. sailed from Malta for the squadron in the Archipelago.

TYNE, 28—c Jan. '34, Capt. Right Hon. H. J. C. Viscount Ingestrie, C.B., 3d Dec. at Malta; 21st Dec. and 2d Jan. remained.

VERNON, 50—c Aug. '34, Capt. M'Kerlie, 7th Dec. passed St. Helen's on her way to the Mediterranean.

VOLAGE, 28—c April '33, Capt. G. B. Martin, C.B., 10th Nov. left Malta for Constantinople with dispatches.

#### CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B. *Appointed* 30th May, 1834. *Flag-Lieut.* James Maitland; *Secretary*, J. B. Hutchings.—*Flag-Ship*, THALIA, 46.

BRISK, 3—c Sept. '31, Lieut. Com. J. Thompson, Sept. on the Gold Coast.

BRITOMART, 10—c March '33, Lieut. W. H. Quin, 12th Oct. sailed for Goree.

BUZZARD, 10—c June '34, Lieut. Com. N. M'Namara, 12th Oct. sailed for Cape of Good Hope.

CHARYBDIS, 3—c Jan. '34, Lieut. Com. S. Mercer, 12th Oct. at Sierra Leone.

CURLEW—c Jan. '35, Lieut. Com. Hon. J. Denman, 22d Jan. left Portsmouth for Sierra Leone.

FAIR ROSAMOND, *Schooner*—c May '33, Lieut. Com. G. Rose, Bight of Benin.

FORESTER—c Sept. '33, Lieut. G. G. Miall, Sept. on the Gold Coast.

GRIFFON, 3—c Oct. '32, Lieut. J. E. Parlbj, Sept. and Oct. at Ascension. The Griffon brigantine, a craft fitted expressly for the African Coast Service, captured on the 31st Oct. last, off the Bight of Benin, the Spanish brigantine Indagadona, with 370 slaves,

and a few days after the Clemente, (the same vessel that was detained and sent into this port under suspicion of piracy by the Pylades, last year, and afterwards liberated,) with 415 slaves on board, making in all 785 slaves. Both the captured vessels have arrived at Sierra Leone, where they were condemned.

LYNX, 10—c Sept. '33, Lieut. Com. H. V. Huntley, Oct. at Ascension.

PELICAN—c Jan. '35, Com. B. Popham, 18th Jan. having had a leak in her steerage, stopped at Portsmouth, which discovered itself on the passage from Chatham, will sail immediately for the western coast of Africa.

PELORUS, 18—c Sept. '31, Com. R. Meredith, 8th Nov. at Sierra Leone.

THALIA, 46—c May '34, Capt. R. Wauchope, 16th Dec. at St. Helena.

TRINCULO, 18—c May '32, Com. J. R. Booth, 16th Sept. arrived at the Cape of Good Hope; 5th Oct. remained.

#### EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Appointed* 30th May, 1834. *Flag-Lieut.* Hon. J. R. Drummond; *Secretary*, — *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—c June '34, Lieut. Com. G. Stovin, 26th Nov. arrived at Cape of Good Hope.

ALLIGATOR, 28—c Sept. '31, Captain G. R. Lambert, 31st August sailed from Sydney for New Zealand.

ANDROMACHE, 28—c Sept. '33, Capt. H. D. Chads, C.B., 16th July arrived at Macao.



- CURAÇOA**, 26—c April '31, Capt. D. Dunn, ordered home, 7th Oct. at Madras.
- HARRIER**, 18—c Nov. '31, Com. S.L.H. Vassal, 3d July arrived at Madras from Trincomalee, sailed same day on a cruise, 25th July arrived at Singapore.
- HYACINTH**, 18—c Feb. '33, Com. F.P. Blackwood, 30th Sept. left Madras for New South Wales.
- IMOGENE**, 18—c July '31, Captain P. Blackwood, 16th July arrived at Macao from Singapore. Ordered home.
- MAGICIENNE**, 24—Captain J. H. Plummeridge, 5th August at Bombay, 20th arrived there from Zanzibar. She had been sickly, having lost her Master, Carpenter, and Messrs. Kennedy and Lloyd, Mates.
- MELVILLE**, 74—c Sept. '31, Vice-Adm. Sir John Gore, K.C.B. Capt. H. Hart, 7th Oct. at Madras; to proceed to Bombay.
- RALEIGH**, 16—c July '34, Com. M. Quin, 12th Oct. left Plymouth for the East Indies, 23d Oct. arrived at Madeira, 25th sailed for Calcutta.
- ROSE**, 18—c June '34, Com. W. Barrow, 3d Nov. arrived at the Cape; 8th sailed for Bombay.
- WINCHESTER**, 52—c June '34, Capt. E. Sparshott, K. H., 5th Nov. arrived at Madeira, 8th sailed for Rio on her way to the East Indies, 20th spoken in lat. 7° N. long. 20° W. by the ship Doncaster, arrived in the river.
- WOLF**, 18—c May '34, Com. E. Stanley, 15th Oct. arrived at Madeira from Plymouth; 18th sailed for the Cape.
- ZEBRA**, 16—c June '34, Com. R. C. M'Crea, 27th Nov. arrived at the Cape.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G. C. B. *Appointed* 6th Dec. 1832. *Flag-Lieut.* H. W. Willes; *Secretary*, T. Woodham.

*Flag-Ship*, *PRESIDENT*, 52.

- ARACHNE**, 18—c July '31, Com. J. Burney. She sailed from New York on the 12th Dec. with Capt. Kitson, Royal Engineers, he having successfully entered into contracts with persons there for erecting the Light-houses on Bahama Island. Expected home.
- BELVIDERA**, 42—c Dec. '33, Capt. C. B. Strong, 21st Nov. at Barbadoes, sailed 24th, 5th Dec. at Port Royal.
- CHAMPION**, 18—c June '32, Commander Hon. A. Duncombe, 17th Jan. sailed for West Indies.
- COLUMBIA**, St. V.—c Aug. '34, Mast. Com. James Henderson, 3d touched at Plymouth, 25th sailed for the West Indies.
- COMUS**, 18—c Oct. '32, Com. W. P. Hamilton, 21st Nov. at Barbadoes from Halifax: arrived 15th.
- CRUIZER**, 18—c Aug. '33, Com. James M'Causland, 5th Dec. at Port Royal.
- DEE**, St. V. 4—Com. W. Ramsay, 19th Dec. at Barbadoes; arrived 15th from Trinidad.
- DISPATCH**, 18—c June '32, Com. G. Daniell, 14th Dec. arrived at Tobago from Trinidad.
- NO. 37.**—VOL. IV.
- DROMEDARY**—c July '25, R. Skinner, Bermuda.
- FIREFLY**, 2—c Feb. '31, Lieut. J. M'Donnel, 12th Nov. arrived at Jamaica.
- FLAMER**, St. V.—c Dec. '34, Lieut. Com. C. W. G. Griffin, 3d Jan. left Lisbon for Barbadoes. It has been stated that the Flamer went to Lisbon to repair damages. She had orders to touch there. Left Plymouth 18th Dec. with despatches for Sir Geo. Cockburn, via Lisbon.
- FLY**, 10—c Sept. '31, Com. P. M'Quhae, 20th Dec. left Port Royal for Port Morant.
- FORTE**, 44—c May '33, Capt. W. O. Pell, 9th Dec. left Port Royal for the north side of the island.
- GANNET**, 18—c March '34, Com. J. B. Maxwell, 21st Oct. at Halifax.
- LARNE**, 18—c Sept. '32, Com. W. S. Smith, 28th Nov. at Jamaica.
- MAGNIFICENT**, 4—c July '30, Lieut. J. Paget, Port Royal.
- PICKLE**, 5—c March '33, Lieut. Com. A. G. Bulman, Sept. sent to Halifax.
- PINCHER**, 5—Tender to flag-ship, 1st Jan. arr. at Barbados from Martinique.



- PRESIDENT**, 52—*c* Dec. '32, Captain James Scott, 1st Jan. at Barbados; 3d Jan. sailed for Trinidad and Jamaica.
- RACEHORSE**, 18—*c* Jan. '34, Com. Sir E. Home, Bart., 30th Nov. at Port Royal.
- RACER**, 16—*c* July '33, Com. J. Hope, 6th Nov. left Jamaica for Barbados; arr. there 15th, 30th Nov. expected at Port Royal, Jamaica.
- RAINBOW**, 28—*c* Feb. '34, Capt. Thos. Bennet, 5th Dec. at Jamaica.
- RHADAMANTHUS**, St. V.—*c* Oct. '32, Com. G. Evans, 8th Nov. and 30th Nov. at Port Royal, Jamaica.
- SAVAGE**, 10—*c* Nov. '32, Lieut. R. Loney, 8th Nov. at Port Royal, Jamaica.
- SERPENT**, 16—*c* Oct. '32, Com. J. C. Symonds, 22d Nov. at St. Lucie.
- SKIPJACK**, 5—*c* June '33, Lieut. Com. S. Ussher, (act.) 30th Nov. Port Royal.
- VESTAL**, 26—*c* May '33, Capt. W. Jones, 9th Dec. left Port Royal for north side of the island.
- WASP**, 18—*c* July '33, Com. J. S. Foreman, 19th Dec. at Barbados from Antigua.

## SOUTH AMERICAN STATION.

- Rear-Admiral Sir G. E. Hammond, K. C. B. *Flag-Lieut.* A. S. Hammond; *Secretary*, E. E. Vidal.—*Flag-Ship*, SPARTIATE, 74.
- BLONDE**, 46—*c* Nov. '33, Capt. F. Mason, C.B., 8th Oct. at Valparaiso, arrived 6th Aug. from Falkland Islands.
- CHALLENGER**, 28—*c* June '33, Capt. M. Seymour, 13th June at Callao from Valparaiso, to proceed to the Sandwich Islands, to be at Valparaiso in Nov. and to leave the Pacific in January.
- COCKATRICE**, 6—*c* July '32, Lt. Com. W. L. Rees, running between Rio Janeiro and Buenos Ayres.
- CONWAY**, 25—*c* Feb. '32, Capt. H. Eden, to leave Valparaiso in Oct. for the northern ports; sailed from Valparaiso 1st Oct. for Lima, Acapulco, San Blas, Mazatlan, and Guaymas. To return home.
- HORNET**, 6—*c* July '32, Lieut. Com. F. R. Coghlan, running between Monte Video and Rio Janeiro.
- NORTH STAR**, 28—*c* April '34, Capt. O. V. Harcourt, arrived 9th Oct. at Buenos Ayres, from Rio.
- RAPID**, 10—*c* July '33, Lieut. Com. F. Patten, November at Bahia.
- SATELLITE**, 18—*c* Sept. '32, Com. R. Smart, ordered home; 7th Aug. sailed for Valparaiso, arrived 4th October; to sail for Callao shortly.
- SNAKE**, 16—*c* April '32, Com. W. Robertson, 23d Oct. left Rio for Falkland Islands.
- SPARROWHAWK**, 18—*c* Nov. '33, Com. C. Pearson, 25th Nov. at Rio, 5th Nov. returned there from the Falkland Islands.
- SPARTIATE**, 76—*c* Oct. '32, Capt. R. Tait, 25th Nov. at Rio Janeiro.
- TALBOT**, 28—*c* May '34, Capt. F. W. Pennell, 20th Oct. sailed for Rio Janeiro with the newly-appointed Admiral, who hoisted his flag on the 15th.

## TROOP SHIPS.

- ATHOL**, *Troop Ship*—Master Com. A. Karley, 8th Feb. arrived at Portsmouth from Nassau; sailed 16th Jan.; left Jamaica 20th Dec. with troops. Sailed for Chatham. Passengers, Mr. Dormer, Master, and Mr. Gain, Purser, of the Rainbow; and Mr. France, Surg. of the Rhadamanthus.
- BUFFALO**, *Store Ship*—Master Com. F. W. R. Sadler, Portsmouth, fitting.
- JUPITER**, *Troop Ship*—Master Com. R. Easto, 22d Jan. at Cork; 5th Feb. arrived at Plymouth; 7th arr. at Portsmouth; 15th arr. at Sheerness, towed by the Messenger. Taken into dock.

The Jupiter will be commissioned by Capt. a'Court, and armed *en flûte*, to convey Lord Heytesbury, (his brother,) and family, the newly-appointed Governor-General, to Calcutta. She will be fitted and furnished by the Board of Green Cloth, and the furniture now in the Herald yacht will be used as part of what may be required.—*Hants Tel.*

**ROMNEY**, *Troop Ship*—Master Com. James Wood, 11th Jan. arrived at Plymouth from Cork and Mediterranean. To be ready for sea on 28th January.



## STEAM VESSELS.

- AFRICAN**—Lieut. J. West, Channel Station.
- ALBAN**—Lieut. Com. J. B. Roepel, 22d Jan. arrived at Cork. The Alban is to attend the George Canning, having on board the Euphrates Expedition to the coast of Syria.
- BLAZER**—Lt. Com. J. Pearse, 14th Feb. arrived at Plymouth.
- COLUMBIA**—See West Indies.
- CARRON**—Lieut. Com. J. S. Duffil, 10th Dec. arrived at Plymouth from the Mediterranean; 10th Dec. sailed for Woolwich.
- COMET**—Woolwich.
- CONFIANCE**, 2—Lieut. Com. J. M. Waugh, Hamoaze 15th Jan. 18th sailed for Falmouth. See Packets.
- DEE**, 4—See North American Station.
- FIREBRAND**—Mr. J. Allen, arrived at Ostend 11th Jan. Home Station.
- FIREFLY**—See Packets.
- FLAMER**, 6—See West India Station.
- LIGHTNING**—Mr. T. Allen, Woolwich.
- MEDEA**, 6—Com. H. T. Austen. See Mediterranean Station.
- MESSENEER**, 1—Com. Mr. J. King, Channel Station: running between Thames, Portsmouth and Plymouth, and Milford.
- METEOR**—Lieut. Com. J. Duffil, 19th Jan. arrived at Plymouth, 21st sailed for Falmouth.
- PHENIX**—Com. R. Oliver.
- PLUTO**—Woolwich.
- RHADAMANTHUS**—See West India Station.
- SALAMANDER**—Com. W. L. Castle, running between the Thames, Portsmouth, and Plymouth.
- SPITFIRE**, 6—Lieut. Com. A. Kennedy. See Packets.
- TARTARUS**—Lieut. Com. H. James. See Packets.

## SURVEYING VESSELS ABROAD.

- ÆTNA**, 6—Lieut. Com. W. Arlett, 2d Dec. at Teneriffe, about to commence a survey of the Canary Islands.
- BEACON**—Com. R. Copeland, surveying in the Archipelago; 17th Nov. at Cheshmè.
- BEAGLE**, 10—Com. R. Fitz-Roy, surveying the coasts of Patagonia and Chili; 9th Oct. at Valparaiso. The Beagle, surveying vessel, was refitting and recruiting her crew, after their long and severe services along the frozen and barren shores of Patagonia, Terra del Fuego, &c. previous to recommencing their labours upon the south shore of Chili. All was quiet at Chili.
- FAIRY**, 10—Com. W. Hewett, Nov. returned to Woolwich from the survey of the North Seas.
- GULNARE**, Hired Schooner—Capt. H. W. Bayfield, surveying the Gulf of St. Lawrence.
- INVESTIGATOR**, 16—Mr. G. Thomas, November, returned to Woolwich.
- JACKDAW**—Lieut. Com. E. Barnett, 20th Dec. at Nassau.
- MASTIFF**, 6—Lieut. Com. T. Graves, surveying in the Archipelago; 18th Nov. at Vourla, 27th Dec. arrived at Malta.
- RAVEN**, Cutter—Lieut. H. Kellet, in company with Ætna.
- THUNDER**—Com. R. Owen, 21st Nov. at Nassau, arrived 9th.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

- Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.
- Lieutenants, M. A. Slater; W. L. Sheringham, H. C. Otter.—East Coast of Great Britain.
- Lieutenants, H. M. Denham; C. G. Robinson.—West Coast of Great Britain.

## PAID OFF.

- TALavera**—12th Feb. Plymouth. We fully concur in the sentiments expressed in the following paragraph, extracted from a Plymouth paper:—

On this occasion, medals, with handsome gratuities, were presented to three old and able seamen for their long services and good conduct. To Edward Wrighton, the Lords of the



Admiralty have granted a pension of £30. 16s. per annum, a medal, and a gratuity of £15.; to John Saxton, a pension of £30. 8s., a medal, and a gratuity of £15.; and to Wm. Payne, a pension of £24. 16s., a medal, and gratuity of £7. The distribution of these rewards took place on the morning previously to the ship being paid off, when the crew were assembled on the main-deck, the three fortunate veterans standing in advance of their shipmates. The gallant Captain, in awarding them, addressed the crew in a style quite characteristic of the British seaman, and was listened to with great attention. Such rewards cannot but prove incentives to good conduct, and tend materially to improve the character of the seamen, every man and boy being aware that by good conduct in the service

he will obtain a certain reward. The following gratifying testimony to the discipline and bearing of the ship was promulgated shortly after the Talavera came into harbour:—"The Admiral Commander-in-Chief has great pleasure in expressing to Captain Chetham, the officers and ship's company of the Talavera, his satisfaction with the high order, discipline, and general appearance of the ship, and with his own personal observation this morning, on her coming into harbour, which he feels it due to them to notice; and he requests Capt. Chetham will be pleased to communicate to his officers and ship's company this mark of his approbation."

COMMISSIONED.

DUBLIN—28th Dec. Plymouth.

#### PROMOTIONS AND APPOINTMENTS.

##### PROMOTIONS.

CAPTAINS—F. G. Wills, Hon. F. De Roos, A. M. Hawkins.

COMMANDERS—G. A. Elliott, F. Edwin, W. B. McClintock.

LIEUTENANTS—J. Foote, W. Boys, G. S. Ward, C. C. Austen, F. Scott.

SURGEON—W. Gunn.

##### APPOINTMENTS.

ACTÆON, 26—Lieuts. C. F. Newman, R. Robinson.

BLAZER, St.V.—Clerk, D. H. Osmer.

CALEDONIA, 120 — Mid. R. Hindmarsh.

CANOPUS, 84—Clerk, T. Turner.

CURLEW, 10—Sec.Master, D. Craigie.

COAST GUARD—Coms. W. Kelly, J. Morgan, (v) Hastings, W. Kent; Lieuts. W. Clapp, A. Graves, J. H. Robertson, W. Goose, L. Denneby, R. A. Jackson, C. G. Clarke, N. Newenham, W. Christie, H. L. Williams, H. A. S. Symes.

DUBLIN, 50—Capt. C. Hope; Com. W. D. Paget; Lieuts. C. M. Mathison, R. Barton, T. E. Smith, R. Hamond; Master, J. Taylor; Surg. J. Miller;

Purser, C. E. Andrews; Sec. Lieut. Mar. W.W. Lillicrap; Chaplain, G.R. Lewen, Sec. Mast. T. Bascombe; Mate, J. Hoseason; Mid. C. P. Coles; Clerk, G. H. Mowbray.

EXCELLENT, 76—Lieuts. R. Engle-due, T. D. Hastings; College Mid. T.E. Johnstone.

HASTINGS, 74 — Lieut. W. Boys; College Mate, Mr. J. D. King.

OCEAN, 80—Clerk, R. S. Stokes.

PIKE, 12—Assist. Surg. J. McCall.

PIGEON, 4—Lieut. Com. W. Lnce.

PELICAN, 16—Mids. E.W.R. Branch-ley, J. S. Davison.

RATTLESNAKE, 28—Lieut. T. M. C. Symonds; Mates, P. F. Shortland, T.B. Horner; College Mid. J. C. Bennett; Clerk, E. A. Smith.

ROVER, 18 — Lieut. J. G. Pascoe; Mate, E. Tatham.

SEAFLOWER, 4—Mate, J. M. Sauler.

SAN JOSEF, 110—Assist. Surg. J. Aighton.

SPEEDY, 8—Assist. Surg. W. Dunbar; Mate, J. E. Vallack.

VICTOR, 16—Lieut. B. Haines.

VICTORY, 104—Assist. Surg. W. Roy; Mate, G. G. Patterson.



FALMOUTH, 20TH FEBRUARY.

LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
METROE, st. v...	Lt. Com. J. Duffill ....	1 Feb.	6 Feb.	Lisbon	1 March.
VIPER.....	Lt. Com. L. A. Robinson	6 Feb.			6 March.
SCORPION .....	Lt. Com. N. Robilliard .	13 Feb.			13 March.
ESPOIR .....	Lt. Com. W. C. Riley ..	21 Feb.			21 March.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—(by steamers)—51 days; sails 1st of every Month.—Route—To Cadix, Gibraltar, Malta, Zante, Patras, and Corfu, and thence returns in the same rotation.

FIREFLY, st. v... | Lt. Com. R. Baldock... | 6 Feb. | ——— | ——— | 31 March.

NORTH AMERICA—9 weeks : sails 1st Wednesday every Month.—Route—To Halifax, and back to Falmouth.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

PILOVER .....

Lt. Com. W. Downey ..	10 Jan.	————	————	14 March.
Duke of York..	Lt. Com. W. James ....	7 Feb.	————	11 April.

LEEWARD ISLANDS—12 weeks : sails 3rd Wednesday every Month.—Route—To Barbadoes, St. Lucie, Martinique, Dominique, Guadaloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and Falmouth. Answers picked up by mail-boats and brought to St. Thomas to the packet.

SPEY .....	Lt. Com. R. B. James..	20 Decem.	————	————	14 March.
REWARD .....	Lt. Com. G. Dunsford..	17 Jan.	————	————	6 June.
TYRIAN .....	Lt. Com. E. Jennings..	18 Feb.	————	————	13 May.

JAMAICA—14 weeks : sails 1st Wednesday every Month.—Route—To Barbadoes, St. Vincent, Grenada, JAMAICA, Crooked Island, and Falmouth.

MUTINE .....	Lt. Com. R. Pawle ....	6 Decem.	————	————	14 March.
CAMDEN .....	Lt. Com. J. Tilley.....	3 Jan.	————	————	28 March.
SMELDRAKE .....	Lt. Com. A. R. Passingham	4 Feb.	————	————	29 April.

MEXICO, JAMAICA, and HAYTI—18 weeks : sails 3rd Wednesday every Month.—Route—To St. Domingo, Jamaica, Belize, Vera Cruz, Tampico, Vera Cruz, Havana, and Falmouth.—[This Packet takes the Carthagena mail, which is sent to Jamaica by a Schooner, and returns to meet the regular Jamaica Packet.]

PELHAM .....	Lt. Com. W. Leslie ....	22 Novem.	————	————	28 March.
OPPOSUM .....	Lt. Com. R. Peters .....	20 Decem.	————	————	25 April.
SEAGULL .....	Lt. Com. R. Parsons.....	17 Jan.	————	————	6 June.
ECLIPSE .....	Lt. Com. W. Forester ..	18 Feb.	————	————	8 July.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks : sails 1st Tuesday every Month.—Route—January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.—September to December inclusive: to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

SEYLAKE .....	Lt. Com. W. P. Ladd ..	11 Oct.	23 Nov.	Bahia	28 Feb.
LORD MELVILLE	Lt. Com. C. Webbe ....	8 Novem.			30 March.
PANDORA .....	Lt. Com. W. P. Croke ..	5 Decem.	15 Dec.	Madeira	25 April.
GOLDFINCH .....	Lt. Com. E. Collier ....	9 Jan.			29 May.
PIGION .....	Lieut. Com. J. Binney..	6 Feb.	17 Nov.	Rio Jan.	26 June.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

IN PORT.

AFRICAN—Lt. Com. J. B. Roepel, at Falmouth.  
 BRISIS—Lt. Com. J. Downey, 8th Feb. arrived from Halifax.  
 LAFWING—Lt. Com. G. B. Forester, 20th Jan. arrived from Jamaica.  
 LYRA—Lieut. Com. J. St. John, 8th Feb. arrived from Leeward Islands.  
 NIGHTINGALE—Lt. Com. G. Fortescue, 9th Feb. arrived from Jamaica.

NAUTILUS—Lt. Com. W. Croke, 12th Feb. arrived from Lisbon.  
 PANTALOOM—Lt. Com. N. Cory, 18th Feb. arrived from Lisbon.  
 REINDEER—Lt. Com. H. P. Dicken, 2d Feb. arrived from Mexico.  
 STAMMER—Mr. R. Sutton, 9th Feb. arrived from Mexico.  
 SWALLOW—Lt. Com. S. Griffith, 15th Jan. arrived from Mexico.  
 TANTARUS—Lt. Com. H. James, 30th Feb. arrived from Mediterranean.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 126.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
57 Asia		St John. NB	Hull	At sea	26 Jan.	Abandoned.
58 Atlas	Symonds	China	Batavia	Appo Shoal	24 July	
59 Berther		Memel	Dundee	Cattagat	Jan.	Crew saved.
60 Bishop Blaze	Hunter	Hull	London	Lowestoffe	18 Jan.	Crew saved.
61 Brig	about 240 tons			Flambrø' Hd.	20 Jan.	Crew drowned.
62 Brothers	Currie	Of Pitten- Lynn	ween Stettin	St. Abb's Hd.	21 Jan.	Crew saved.
63 Charlotte				Juland	17 Jan.	3 drowned.
64 Duke of Kent				V. D. Land	Sept. '34	
65 Eclipse		Belfast	Glasgow	Run down by Corsair Stv.	1 Feb.	Off Copeland I.
66 Edwd. Lombe				Off Sydney	25 Aug.	12 drowned.
67 Ellen		London	Westport	Downpatrick	8 Feb.	Crew saved.
68 Endeavour	Of Beau- Bowman	maris		Dee	5 Feb.	Crew drowned.
69 Greenwell		Sunderland		Madeira	3 Jan.	5 drowned.
70 Hope	Of Dublin	Stern wash	ed ashore at	Pwiheli	23 Jan.	
71 Hunter	Of Arbroath	Part of her	driven on	shr. at Holy I.	20 Jan.	
72 Isis		Pillace	Rotterdam	Pillace	22 Jan.	Stranded, leaky.
73 Jenny		Portaferry	Glasgow	Mull of Gal- loway		Crew saved.
74 Jessie	M'Kenzie	Port Ruah	Campbton.	C. Ireland	29 Jan.	Crew saved.
75 John	Beirout	Liverpool	Mazzara	27 Dec.	Crew saved.	
76 Lady Durham	Stewart	Africa	Liverpool	Ascension	24 Nov.	By fire, crew saved.
77 Mantius	Of Belfast	Quebec	Greenock	Golden Bay	9 Dec.	13 drowned.
78 Marquis of Huntley		Sunderland		R. Spey	19 Jan.	Crew saved.
79 Nile	King	Liverpool	Dublin	Kish Bk.	19 Jan.	4 drowned.
80 Regina		Liverpool	Barbadoes	Cobler R.	7 Dec.	Crew saved.
81 Sir Thomas Munro		London	N. S. Wales	Bonavista	9 Dec.	Crew & passengers
82 Tantivy	Kemp	Newfndld.	St John. NB	Sable I.	21 Nov.	Crew saved.
83 Thomas and Ann	Of Scarbro'			Marak	19 Jan.	
84 Travis		Liverpool	Havana	Cuba	3 Dec.	Crew saved.
85 William 4th	Miller	Liverpool	Valparaiso	Near R. Plata	5 Oct.	3 drowned.
86 Witham	Gibbs	London	Antwerp	Scheveling	17 Jan.	Crew saved.

\* Fifty-one brought home in the American brig Maine, arrived 7th Feb. at Plymouth, who speak in the highest terms of the kindness of her captain, Williams.

**START POINT.**—The works which have been for some time past in progress for erecting a lighthouse on the Start are now much advanced, and a notice concerning them will be found in our next number.

Two packet brigs, to be called the Dolphin and Bonetta, have been laid down at Sheerness Dock-Yard. They are to be 90 feet on the gun-deck, by 29ft. 3in., 320 tons burthen, and to be constructed similar to the Pandora.

The following Midshipmen have recently passed for Lieutenants—at the College *c*, and in Seamanship *s*:—T. B. Christopher, *c*; P. F. Sherland, *c*; W. F. Burnett, *c*; S. Reeve, *c*; D. M'L. M'Kenzie, *c*; H. Bacon, *c*; A. E. Wilmot, *c*; A. Roger, *c*; C. R. Halliday, *c*; W. Kendall, *c*; C. J. Walton, *c*; J. Brickford, *c*; J. E. L. Cooper, *s*; J. C. Bennet, *c*; F. Bouchier, *c*; G. M. Cunningham, *c*; J. R. Thompson, *c*; Ali Effendi, *c*; H. Charlton, *s*; E. S. Markland, *c*, *s*; R. Maguire, *c*, *s*; H. M. Kingsman, *c*; J. Borlase, *c*; J. M. Cooke, *c*; G. Johnson, *c*; H. G. Austen, *c*; H. Simpson, *c*; H. W. Baugh, *c*; Hon. M. Kerr, *c*; G. E. W. Hammond, *c*; R. B. Harvey, *c*; F. E. Johnson, *c*; H. Trollope, *c*; A. D. Shafto, *c*; E. R. J. Balfour, *c*; T. Wilson, *c*; F. H. Harper, *c*; R. B. Barwell, *c*; W. Codrington Forsyth, *c*; G. J. H. Munro, *c*; T. B. Horner, *c*; M. Lawless, *c*; R. Edwards, *c*; G. G. Patterson, *c*; J. C. Blacket, *c*.



**Births.**

On the 19th inst., Mrs. Janet Taylor, the celebrated authoress of "Luni-Solar and Horary Tables, Navigation Simplified, &c.," of a son, East-street, Red Lion Square.

On board the Undaunted frigate, the lady of Lieut. Lowcay, R.N., of a son.

In Windsor Place, Princess Square, Plymouth, the lady of Lieut. Herbert Jones, R.N. of a son.

At the Government House, St. Vincent's, the lady of his Excellency Capt. George Tyler, R.N., of a son.

**Marriages.**

At St. Thomas's, Ryde, by the Rev. R. Sibthorp, Captain Netherlton Langford, R.N., to Caroline, eldest daughter of the late Hon. and Rev. James St. Leger.

Jan. 12, in Poplar Grove, Halifax, Nova Scotia, by the Venerable Archdeacon Willis, W. H. Jervis, Esq., Com.R.N. of Canaan and Mount-Ricketts, in the island of Jamaica, to Susan-Arabella, third daughter of the late John Starr, Esq., Member of the Provincial Parliament for the county of King's.

**Deaths.**

It is our painful duty to announce the death, on Thursday last, of his Excellency Sir Charles M. Schomberg, K.C.H., R.N., Governor of the island of Dominica, which melancholy event occurred about two o'clock, P.M., on board his Majesty's ship President, bearing the flag of Vice-Admiral Sir George Cockburn, while at anchor in Carlisle Bay. At seven o'clock yesterday morning, the body was lowered with due solemnity into the frigate's barge, under minute-guns fired from the ship, and rowed to the Engineer's Wharf, from whence it was conveyed at half-past eight o'clock, by the crew of the barge, to St. Paul's Chapel, and interred with military honours; Colonel Bridgeman, Deputy-Adjutant-General; Colonel Lacy, R.A.; and Captains Scott and Sweeny, officers of the flag-ship; bearing the pall. His

Excellency Sir Lionel Smith, and Vice-Admiral Sir George Cockburn, followed as chief mourners. Sir Chas. Schomberg was a highly meritorious officer, and had distinguished himself in several remarkable engagements in the Royal Navy, the service to which he was attached. His administration of the government of Dominica appears to have given high satisfaction to the inhabitants generally.—*Barbadoes Mercury*, Jan. 3.

The following is from a Canton Paper: "Canton, 13th October, 1834.—Died, at Macao, at half-past ten on the 11th Oct. the Right Hon. William-John Lord Napier, of Merchiston, a Baronet of Halifax, Captain in the Royal Navy, and his Britannic Majesty's Chief Superintendent in China. His Lordship expired of a lingering illness, brought on by too arduous performance of his duties at Canton, aggravated by the treatment he received from the Chinese Government, while on his passage in a sick state to Macao."

On the 5th Feb., at Guernsey, Mr. George Ramaden, Master, R.N., after a long illness.

In Haslar Hospital, Mr. Melvin, Purser, R.N., a native of Portsea.

On the 12th of Feb., at West Cowes, of a painful illness, brought on by the arduous duties of the service in which he was employed, Lieut. Thomas Eversfield, R.N., aged 37.

At Greenwich, Capt. Edward Brazier, (1814), Royal Navy. He had suffered amputation of his left leg, which was affected with a malignant ulcer, and was recovering from the effects, when an effusion of the brain ensued, and caused his death.

Suddenly, whilst sitting in his chair, Lieut. Thorn, R.N., lately appointed to the Coast Guard Service.

At Whitechapel, retired Commander John Maver, R.N., aged 90.

At his residence in Cobourg-street, Com. S. Featherstone, R.N. (1790.)

On the passage to China, Lieut. R.T.B. Sheppard, R.M., eldest son of Major Sheppard, of that corps.

At Bray, Lieut. James Tandy, R.N., Chief Officer of the Coast-Guard Service, aged 43.

At Southsea, Mr. Peter Cloyde, R.N., father of Lieut. Cloyde, R.N., aged 66.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**JANUARY, 1835.**

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
								Quarter.		Strength.			
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
1	Th.	30.19	30.40	44	42	42	45	N.W.	N.	5	2	Od 2)	Bc.
2	F.	30.81	30.84	38	41	35	42	N.E.	N.E.	2	2	Ov.	Ov.
3	S.	30.78	30.74	35	39	30	40	E.	N.	1	1	O.	Bc.
4	Su.	30.61	30.57	28	32	25	35	N.	N.E.	1	1	B.	B.
5	M.	30.60	30.56	31	37	25	37	E.	E.	2	3	O.	Bc.
6	Tu.	30.55	30.47	25	30	23	31	N.E.	E.	1	2	F.	B.
7	W.	30.28	30.21	20	24	17	26	N.E.	E.	1	1	F.	F.
8	Th.	30.13	30.07	29	31	28	32	N.E.	N.	2	2	Of.	Ofd (4)
9	F.	29.86	29.72	37	44	30	46	S.W.	S.W.	5	7	O.	Oqr (4)
10	S.	29.84	29.84	37	41	35	43	S.W.	S.W.	3	4	B.	O.
11	Su.	29.82	29.86	48	52	42	52	S.W.	S.W.	4	4	Og.	Ogdr 4)
12	M.	29.94	29.92	48	48	46	50	S.W.	S.W.	3	3	O.	Bc.
13	Tu.	29.69	29.60	39	43	37	44	S.E.	S.E.	1	2	O.	O.
14	W.	29.48	29.47	43	49	42	50	S.E.	S.E.	1	1	O.	O.
15	Th.	29.66	29.68	45	47	44	47	S.W.	W.	2	3	Bc.	O.
16	F.	29.04	29.19	46	44	43	49	S.W.	W.	10	8	Or (2)	Bc.
17	S.	29.60	29.69	33	38	30	38	S.W.	W.	8	6	O.	Bc.
18	Su.	29.81	29.65	27	32	23	35	E.	S.E.	2	3	Bcm.	Orh 4)
19	M.	29.10	29.18	40	36	32	42	W.	N.W.	8	3	Or (1)	Os 4)
20	Tu.	29.86	30.10	30	32	29	32	N.W.	N.W.	7	7	Bcqs (1	Bc.
21	W.	30.30	30.26	23	30	22	32	W.	W.	3	3	Bcm.	Os 4)
22	Th.	30.17	30.22	34	36	28	38	N.	N.	3	3	Og.	O.
23	F.	30.35	30.30	37	42	32	44	S.W.	S.W.	3	3	O.	O.
24	S.	30.13	30.16	44	46	37	47	W.	W.	4	4	O.	Bc.
25	Su.	30.23	30.25	45	52	36	52	S.W.	S.W.	4	3	O.	Bc.
26	M.	30.33	30.35	46	49	42	50	W.	W.	2	2	Bcm.	Bcm.
27	Tu.	30.44	30.40	42	46	38	46	W.	S.W.	3	2	O.	O.
28	W.	30.36	30.27	39	41	36	42	S.W.	S.W.	1	1	Og.	Og.
29	Th.	30.18	30.14	41	47	38	48	S.	S.W.	2	3	Og.	Bc.
30	F.	30.10	30.03	43	46	40	48	S.	S.	1	2	O.	B.
31	S.	30.02	30.05	39	40	37	41	S.	S.	2	4	O.	Ogd (3)

**JANUARY**—Mean height of Barometer=30.072 inches; Mean Temperature=37.9 degrees; Depth of Rain fallen=0.60 inches.

N.B. On the 2d January, at 9 P.M. my barometer attained the great height of 30.86 inches; and on the 16th, at 12 at noon, it was down to 29.01 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.		WEATHER.	
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.	p Passing temporary showers.	
1 Light Air.	c Clouds—detached passing clds.	q Squally.	
2 Light Breeze.	d Drizzling Rain.	r Rain—continued rain.	
3 Gentle Breeze.	f Foggy—f Thick fog.	s Snow.	
4 Moderate Breeze.	g Gloomy dark weather.	t Thunder.	
5 Fresh Breeze.	h Hail.	u Ugly threatening appearances.	
6 Strong Breeze.	l Lightning.	v Visible clear atmosphere.	
7 Moderate Gale.	m Misty hazy atmosphere.	w Wet Dew.	
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.	• Under any letter indicates an extraordinary degree.	
9 Strong Gale.			
10 Whole Gale.			
11 Storm.			
12 Hurricane.			

*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

**LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.**











# THE NAUTICAL MAGAZINE.

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APRIL, 1835.

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## HYDROGRAPHY.

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"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

---

Compass Bearings.

### 16. SHOALS OFF CAPE ST. THOME, *Coast of Brazil.*

THERE is yet much uncertainty about the shoals off Cape St. Thomé, and the following account of a Brazilian frigate suddenly finding herself in shoal-water, will serve as a caution to navigators:—

"On the 29th of November, his Imperial Majesty's frigate "Principe Imperial," steering S.W. by S., in the lat. of Cape St. Thomé, and long.  $42^{\circ}50'$ , (of Paris,) sounded at 3 A.M. in thirty-two fathoms; at 3 h. 15 m. in nine; and 3 h. 20 m. in six, and a half five. The ship running between five and six knots, a dark squally morning, with all sail set. No time was lost in shortening sail, and the small bower-anchor cut adrift, when we found ourselves in half four. The frigate drawing twenty-two feet, and a heavy swell on at the time.

"At daybreak, the shoals of San Thomé breaking very high, bore W. by S. distant one mile. At this time it cleared away, and we could see nearly thirty miles from the masthead; but no land was to be seen.

"The following day we had excellent sights for the chronometers near Cape Frio; consequently there is no doubt that these shoals extend upwards of thirty miles off.

"On the ship running out E. by N. at the rate of two knots for three hours, we found the soundings very irregular, from five to seven and eight fathoms, and then lessening to five and four and a half, sand; and we got soundings off the shoals in twenty-six fathoms, having run off at least twenty miles.

The position of the frigate, according to the above longitude, was about twenty miles from the Cape, by the Admiralty chart, and by that of Roussin about twenty-five; and in neither of these is such shoal-water laid down there as was found by her. By the Admiralty chart, breakers extend eight miles off the Cape, and the soundings are very irregular, which alone should deter vessels from taking liberties with the land in the neighbourhood. At



page 352 of our second volume, in noticing this chart, we cautioned navigators of these dangers, thus—"There is much reason, from the nature of the soundings, for supposing that a bank extends along the coast to the northward of Cape St. Thomé, and particularly where the Tam O'Shanter, of London, is said to have struck. A place further off the coast, in nearly the same latitude, wears a suspicious appearance, *and will require a vigorous attention to the LEAD from a vessel in its neighbourhood.*" We have no reason to doubt the position of Cape St. Thomé, and the Brazilian frigate might not have been so far from the land as thirty miles, Cape St. Thomé being very low, and difficult to be seen. But, until the distance that these dangers extend from Cape St. Thomé shall have been well ascertained, we again caution vessels to use their lead, and not to get to the westward of long.  $40^{\circ}$  while near its latitude.

#### 17. MOUTH OF THE ELBE. *Pilot Station.*

The following notice is published for the information of masters of vessels frequenting the Elbe :—

*Hamburg, March 9.*—As the channel at the mouth of the Elbe, off the Flugel Tonne, has shifted, and in consequence thereof, when the pilot galliot is laid there on account of stormy weather, the pilots can no longer board vessels with due safety, a new station has been appointed for the galliot, which is more convenient for vessels entering the Elbe; and this new station will be occupied by the galliot when requisite, after the 1st of April next. Therefore, after the 1st of April, when the pilot vessel is obliged to quit her station off the red buoy, on account of stormy weather, she will no longer proceed to the Flugel Tonne, but will anchor within the triangle formed by the buoys D, C, and No. 6. This change of the pilot station is hereby made public, for the information of mariners.—By order of the Navigation and Harbour Board.—(*From the Times, March 17, 1835.*)

#### 18. LIGHTHOUSE ON THE SEVEN ISLES, *North-West Coast of France.*

(Received from the French Government.)

Notice is hereby given, that from the 1st of May next, a Small Light, varied with occasional flashes, will be shewn during the whole of the night on the lighthouse lately built at the East end of the Isle-aux-Moines, one of the Seven Isles.

The flashes, lasting from four to five seconds, will be repeated every three minutes. The Faint Light, seen during the intervals, will be immediately preceded and followed by very short eclipses. It may be seen in fine weather at the distance of  $3\frac{1}{2}$  leagues.

The new light will be hidden, in the E.N.E. direction, by the small island of Rouzic, two miles and a third from the Isle-aux-Moines.

It should be observed, that this light might be mistaken for the Revolving Light on Cape Frehel, if attention were paid merely to the duration of the



intervals between the flashes ; which intervals, in the light of Cape Frehel, are of two minutes and three-quarters : but the light of the Seven Isles may be distinguished from all the other intermittent lights in the channel, by its shewing a fixed light, varied by flashes. It is, moreover, to be observed, that mariners, making this light, and steering eastward, in order to pass between the Roches Douvres and the Isle of Brehat, cannot fail of seeing the fixed light of the Heaux, five leagues and a half east of the Isle-aux-Moines, and eleven leagues W.N.W. of Cape Frehel.

*Hydrographical Office, Admiralty, 7th March, 1835.*

## 19. LIGHTHOUSE ON THE START POINT.

*Trinity-House, London, Feb. 12, 1835.*

The works which have been for some time past in progress for erecting a Lighthouse upon the Start Point being now much advanced, notice thereof is hereby given, and, that the same are expected to be completed, and the intended light exhibited therein, in the early part of the ensuing autumn.

The character of this light, which will burn at an elevation of 204 feet above the level of the sea, at high-water spring-tides, will be that of a powerful Revolving Light, shewing a succession of brilliant flashes at regulated intervals of one minute ; and, in addition thereto, a Stationary Light will also be exhibited in the same lighthouse, in the direction of the Berry Head.

Further particulars in respect of the distinguishing character of this light, with the exact time of its first exhibition, will be hereafter published.

### PORTLAND HIGH LIGHT.

Notice is also given, that, at the time of the first exhibition of the said intended light at the Start Point, the High Light at Portland will cease to be exhibited as a Revolving Light, but will be continued as a fixed or stationary Light, together with the Low Light, both being visible as fixed lights in the same direction seaward as heretofore.

By Order,

J. HERBERT, Secretary.

## 20. LIGHT FOR FALMOUTH HARBOUR.

*Trinity-House, London, Feb. 12, 1835.*

The preparations which have been for some time past making for exhibiting a Light on St. Anthony's Point, at the East side of the entrance to Falmouth Harbour, being in a state of great forwardness, notice thereof is hereby given ; and, that a Light will be exhibited on that Point in about two months from this date, and thenceforth continued every night from sunset to sunrise, for the guidance of vessels entering or departing from Falmouth Harbour.

This light will burn at an elevation of sixty-five feet above the level of the sea at high-water spring-tides, and will be visible in all directions from S.40° E. round Southward, Westward, and Northward, up the Harbour of Falmouth. And, in order to render it readily distinguishable from all other lights in that vicinity, it will present a quick but regular succession of flashes of Brilliant Light.

Further particulars, with the exact time at which the light will be first exhibited, will be hereafter published.

By Order,

J. HERBERT, Secretary.



## 21. LIST OF LIGHT-HOUSES AND LIGHT-SHIPS ON THE

NAME OF THE LIGHT.	Name of the Point or Place where the Light-house stands.	Number of Lights, with their Bearing and Distance from each other.	Fixed, Revolving, or Flashing.	Minutes of time that the Light is visible.	Minutes of time that the Light is obscured.
<del>Ardglass</del>	Ardglass Pier	One	Fixed	M. S.	M. S.
<del>Arran Island</del>	Summit of S. Arran Island	One	Rvolving	0 15	2 45
<del>Arranmore</del>	North Pt. of Arran Island	Light discontinued on	Long Is	land	being
<del>Balbriggan</del>	Balbriggan Pier	One	Fixed		
<del>Cape Clear</del>	Cape Clear Island	One	Rvolving	0 10	1 50
<del>Carlingford</del>	Haulbowling Rock	Slide Lt. in same Tower	Fixed		
<del>Carlingford Lough</del>	Greenore Point	One	Rvolving	0 15	0 30
<del>Charlesfort</del>	Kinsale Harbour	One	Fixed		
<del>Clare Island</del>	North Pt. of Clare Island	One	Fixed		
<del>Copeland Island</del>	Copeland Island	One	Fixed		
<del>Cork Harbour*</del>	Roches Point	One	Fixed		
<del>Duncannon</del>	Duncannon Ft. (Waterford)	Two Lts. in same Tower	Fixed		
<del>Dunmore</del>	Dunmore Pier	One	Fixed		
<del>Hook Tower</del>	Hook Head	One	Fixed		
<del>Howth Bailly</del>	Howth Bailly	One	Fixed		
<del>Howth</del>	Howth East Pier	One	Fixed		
<del>Innisgort</del>	Innisgort (Clew Bay)	One	Fixed		
<del>Innistrahul</del>	Innistrahul Island	One	Rvolving	0 10	1 50
<del>Kilkadran</del>	Kilkadran Point (Shannon)	One	Fixed		
<del>Killibegs</del>	Saint John's Point	One	Fixed		
<del>Kingstown</del>	Kingstown East Pier	One	Rvolving	0 5	0 50
<del>Kinsale</del>	Old Head of Kinsale	One	Fixed		
<del>Loophead</del>	Loophead	One	Fixed		
<del>Loughswilly</del>	Fannet Point	One	Fixed		
<del>Maiden-North</del>	Maiden Rock North	{ Bearing NW & W	Fixed		
<del>Maiden-South</del>	Maiden Rock South	{ Distant 1920 feet	Fixed		
<del>Mutton Island</del>	Mutton Island (Galway)	One	Fixed		
<del>North Wall</del>	End of N. Dublin Quay	One	Fixed		
<del>Poolbeg</del>	Entrance to Dublin Harbour	Slide Lt. in same Tower	Fixed		
<del>Skellig-Lower</del>	Skellig Rock	{ Bearing N b E	Fixed		
<del>Skellig-Upper</del>	Skellig Rock	{ Distant 650 feet	Fixed		
<del>South Rock</del>	South Rock	One	Rvolving	0 20	1 10
<del>Tarbert Rock†</del>	Tarbert Rk. (Riv. Shannon)	One	Fixed		
<del>Tory Island‡</del>	Tory Island (North Point)	One	Fixed		
<del>Tuskur</del>	Tuskur Rock	One	Rvolving	0 10	1 50
<del>Wicklow, Lower</del>	Wicklow Head	{ Bearing NW b W & W	Fixed		
<del>Wicklow, Upper</del>	Wicklow Head	{ Distant 540 feet	Fixed		
<i>Lighthouses now building.</i>					
<del>Eagle Island, North</del>	Off N.W. Coast of Erris	} Will be lighted in 1833.			
<del>Eagle Island, South</del>	Off N.W. Coast of Erris				
<del>Slyne Head, North</del>	Coast of Galway				
<del>Slyne Head, South</del>	Coast of Galway				
<del>Sligo Bay</del>	Black Rock (Sligo Bay)				
<i>Floating Lights.</i>					
<del>Arklow</del>	South end Arklow Bank	One Lantern			
<del>Coningbeg</del>	Off Coningbeg Rock	Two Lanterns			
<del>Kish</del>	North of Kish Bank	Three Lanterns			

\* Rebuilt in 1832-1833. † Lighted 1st March, 1831. ‡ Lighted the 31st August, 1832.

## BEACON TOWERS.

BEEVES ROCK, (1 tower,) . . . River Shannon.  
 BLACK ROCK, (1 tower,) . . . Sligo Bay.  
 BROWNSTON HEAD, (2 towers,) . . . Tramore Bay.  
 GREAT NEWTOWN HEAD, (3 towers,) . . . Tramore Bay.  
 INNISBOFIN, (2 towers,) . . . Innisbofin Island.  
 SCARLET ROCK, (1 tower,) . . . River Shannon.  
 CRANFIELD POINT, (1 tower,) . . . North side of entrance to Carlingford Lough.



## COAST OF IRELAND, WITH THEIR BEARINGS, &amp;c. &amp;c.

Distance in Nautic miles at which the light is easily seen in clear weather.	Points of the Magnetic Compass between which the Light shews.	Time of Lighting. Floating Light; depth in fathoms at low water.	Colour of the Light.	Colour of the Lighthouse, or any peculiarity in its appearance by Day.	Height of lantern above the sea at high-water in feet	Height of Land on which the Light-house is erected above the sea, in feet.	Height of Building from Lantern to Base.
11	E.b.S. S. seaward to S.S.W.	Lighted at time of Sunset, and extinguished at Sunrise. (By Almanack.)	Deep red	Freestone	40	11	29
23	From all points the 1st August, 1832.		Bright	White	498	461	37
11	W.S.W. seaw'd to S.S.E. & E.		Bright	White	55	H.W.	35
23	All round		Bright	White	455	413	42
15	All round		Bright	Ball hoisted at tide	101	Bel. H.W.	111
8	W.b.S. seaward to S.E.b.S.		Bright	White	29	3	26
6	Open to Harbour		Bright	White	98	63	35
29	W. seaward to N.E.		Bright	White	487	451	26
15	All round		Bright	White	131	79	52
14	S.E.b.E. seaward to N.b.E.		Deep red to sea, bright to Cove	White	92	66	26
6	Open to River		Bright	White	40	15	25
8	W. seaward to W.S.W. & S.		Red to sea, bright to Harbour	White	44	8	36
17	E.N.E. seaward to N.N.E.		Bright	White	139	29	110
17	N.E.b.E. seaw'd to W.N.W.		Bright	White	114	72	42
9	All round		Bright red to seaward	White	43	6	37
10	N.N.E. seaward E.		Bright	White	36	10	26
18	All round		Bright	White	167	141	26
16	E-seaward to W.b.N.		Deep red to sea, bright to river	White	133	107	26
14	E.b.S. seaward to N.E.b.E.		Bright	White	104	63	41
8	All round		Bright	Brown	31	12	19
23	N.E. seaward to N.W.		Bright	White	294	254	42
22	E.b.S. S. seaward to E.b.N.		Bright	White	269	220	49
14	S. seaward to W.N.W.		Deep red to sea, bright to Lough	White	90	64	26
14	All round	Lighted at time of Sunset, and extinguished at Sunrise. (By Almanack.)	Bright	White	84	24	60
10	All round		Bright	White	94	34	60
9	All round		Brilliant red	White	33	7	26
9	N.N.E. seaw'd to W.N.W.		Bright	Granite	33	5	28
13	All round		Bright	Bl. h. tide	68	5	63
18	{ N.b.E. seaward to S.b.W.		Bright	White	175	147	26
25	All round		Bright	White	372	346	26
12	All round		Bright	White	52	Bel. H.W.	60
17	W.S. seaward to S.W.		Bright	White	58	Bel. H.W.	67
15	S.E.b.S. seaward to S.E. & E.		Bright	White	121	92	63
15	All round		Two faces bright, one red	White	101	20	81
16	{ N.b.E. seaward	Lighted at time of Sunset, and extinguished at Sunrise. (By Almanack.)	Bright	White	121	92	29
21			Bright	White	250	192	38
8	From all Points		Bright	Yel.&blk.	25		
9	From all Points		Bright	Yel.&blk.	25		
9	From all Points		Bright	Cen. Lant. highest	25		

## BEACON PERCHES.

BLACK ROCK, . . . . .	Galway Bay.
BURRIN ROCK, . . . . .	Lambay.
CARGER ROCK, . . . . .	Balbriggan.
HARBOUR ROCK, . . . . .	Glandore.
HARBOUR ROCK, . . . . .	Valentia.
TAYLOR'S ROCK, . . . . .	Lambay.

(Signed)

GEORGE HALPIN, Inspector of Lighthouses,  
Ballast-Office, Dublin, April, 1834.

\*.\* The foregoing is a copy of the Document published by order of the Corporation for Improving the Port and Harbour of Dublin.



## 22. REMARKS ON THE PORT OF MACEIO, BRAZILS, by Commander the Hon. F. F. de Roos.

[Compass Bearings.]

On approaching Maceio, when at the distance of twelve or fourteen miles, a small white building can clearly be made out. It is a powder-magazine, and is situated on a wooded bluff, which overlooks the town and harbour. The land may also be distinguished by a red spot on the face of the cliff, about five miles to the south-west, and by a white chapel, with two towers, in the same direction: moreover, Mount Barriga, at a distance in the interior, may be observed. It stands alone, and is higher than the land which forms the coast, but is otherwise not remarkable.

Maceio being the only convenient anchorage between Bahia and Pernambuco, enjoys a considerable commerce, and has an extensive communication with the interior. Many English vessels annually touch here. Supplies are to be had at a moderate rate, and excellent water can be obtained in the adjoining harbour of Pajucara, at a well near the beach.

The port is formed by the point of the Barrier Reef terminating abruptly, which extends along the shore here, a sandy beach, forming the continuation of the coast for some miles to the southward. It is an open bay, but affords protection from the prevailing winds, which blow from N.N.E. to E.S.E. throughout the greater part of the year.

The men who fish in the jangados, or sailing rafts, which are constantly to be met with on this coast, are good pilots; but there is a regular harbour-master at the village of Jurugua, who will come off to bring ships, on their firing a gun.

The anchorage of his Majesty's sloop *Algerine* was in five fathoms and a half, the end of the reef bearing S.E. and the covered wharf, or trapiche, E. 58° N., by compass. From this anchorage the sea is open from S.E. to S.W.  $\frac{1}{2}$  W., bottom sand and clay; a quarter of a mile in the direction of the trapiche are moorings laid down for the trading packets from Pernambuco and Bahia, which call every fortnight.

Persons acquainted with the port generally approach it, keeping within a quarter of a mile of the reef, and in this manner rounding the point; but strangers are not recommended to do this, as the soundings are irregular, and the Baixo, with only fifteen feet water on it, is to be avoided. The safe rule is not to bring the powder-magazine to the eastward of north, till you have passed the point of the reef; you may then haul into your anchorage.

In the nine summer months this port may be deemed safe, but in June, July, and August, when the southerly winds prevail, it is very much exposed. No English merchant vessel has ever been wrecked here, though one brig, not long since, drove and bumped her rudder to pieces in a southerly wind. Instances of Brazilian wrecks frequently occur.

There is an adjoining harbour, formed by the same reef, called Pajucara, which affords shelter only to small vessels. It is shaped like a basin, the entrance being near the centre. It is very shallow, and seldom used, as, with the wind to the northward of N.E. a vessel cannot fetch in. One corvette and two brigs of war have been built in Pajucara.

The latitude 9° 39' S. is that given by Baron Roussin; the long. 35° 40' 10" W. is determined by applying the difference of longitude 2° 48' 19" as measured by three excellent chronometers, to the longitude of Bahia. This is assumed to be 38° 28' 30", which is the mean result of occultations observed by myself in the year 1823.



*Further Remarks on Maceio by Captain C. R. Drinkwater, R.N.*

Maceio is a small port about one hundred miles south of Pernambuco. The fort lies in latitude  $9^{\circ} 40' 44''$  S., and is  $7^{\circ} 29' 15''$  E. from Rio Janeiro. The land to the northward is of moderate height, abounding in red cliffs. Above the port there is a remarkable appearance, resembling a road cut up the hills. This is a pretty good mark. The harbour is formed by reefs, the entrance round the southern end. H.M.S. Doris anchored in eight fathoms, rock, and broke the anchor in heaving up three hours after. A little farther in, the bottom is clearer, as seen by the sludge. There is a constant swell setting in.

N.B. The observations were made with sea horizon.

23. ISLE ST. ANDREW.—*West Indies.*

(Compass Bearings.)

In addition to the observations made on this island by Mr. Henry Mapleton at pages 389 and 423 of our last volume, we give the following by Mr. T. P. Codnor, acting master of H. M. S. Cruizer, now in the West Indies. We trust that, with these directions, and the valuable surveys of the island by Lieut. Edward Barnett, of H.M.S. Jackdaw, this island will become better known than it appears to have been.

After leaving Chagres for this island, we were taken considerably to the eastward by the strong current, before we could get into the sea-breeze. We ran down the latitude and longitude, as laid down in the Admiralty charts and Columbian Navigator, without seeing any appearance of land. Knowing that the coast about Nicaragua was laid down considerably too far to the eastward, we presumed this place must be in a similar error. Having steered W.  $\frac{1}{4}$  S. ten or twelve miles, land was descried from the masthead on the larboard-bow. This was soon made out to be the E.S.E. Kays, and in a short time the breakers were seen from the deck, extending to the northward of the Kays some distance, three or four miles, and breaking very high. Their appearance was awful, and in my opinion there would be imminent danger to a vessel approaching them at night, or in thick dirty weather. When the centre of the Kays bore south six miles, our chronometer gave us  $81^{\circ} 29'$  W. longitude. We then discovered the island of St. Andrew's right ahead, and, after running five miles to the north point of it, bore N.W., terminating in a low perpendicular bluff. The south point bore W.  $\frac{1}{4}$  S. and is also a low point, and which we rounded in ten to seven fathoms, and hauled up for the anchorage in West Bay, about two or three miles to the northward of the south point.

This bay may be easily known by two hills, the highest in the island. On the westernmost is a white house, and near it a cocoa-nut tree, the first object to be seen after rounding the point, and bore from us at anchor N.E. by N., and a large patch of clear ground on the southern part of the bay S.E. by E.

The best anchorage is to bring an islet in the middle of the bay to bear E., and steer for it until within the line of white sand, in 8,  $7\frac{1}{2}$ , or 6 fathoms water. Come to an anchor about three or four cables' length from the shore. Two miles off, soundings could not be obtained with twenty fathoms.



The eastern part of the island is bounded by a very dangerous reef, of which we had a good view from the top of the hill, it broke a full mile off. We found the

Latitude of West Bay..... 12° 30' 00" N.

Longitude, by chronometers ..... 81° 44' 30" W.

making a difference between it and the Colombian Navigator of 44° 30' west, difference longitude.

Mr. Lever, an intelligent Englishman, and Chief Magistrate of the island, who has resided there eighteen years, informed me that the paragraph in the Colombian Navigator, vol. ii., copied from the Derrotero, that says—"There is neither river nor brook, nor is there any known spring or fountain, the inhabitants therefore are obliged to dig pits or wells, the water of which is thick and brackish,"—is altogether a mistatement, as all the water on the island is supplied bountifully by springs, and of an excellent quality, and there is not a well on any part of the island.

Their principal exports are cotton, fustic, and dyewood, which they exchange for European and American goods. There are two traders to the island, one from Jamaica, the other an American. The population is seven or eight hundred blacks, and about two hundred and fifty whites, and are attached to the New Granada Government. The English language is at present commonly spoken, but they are establishing schools, with Spanish masters, to teach in that language. The present Governor is a Captain Escalony, of the Colombian service; an obliging person, with a slight tinge of colour. You can purchase beef, mutton, pork, fowl, fish, fruit, and very reasonable, and in great plenty. Wood in abundance.

This place is considered exceedingly healthy; the coolness and salubrity of the air is very soon perceptible to visitors; nor is it subject to such constant and heavy rains as on the main. September is their wet or rainy month, and in November the strong north-west winds prevail, when it is dangerous for vessels to lay at anchor in West Bay, and the only month that need be avoided.

#### 24. BUOYS ON THE BRAMBLES SHOAL. *Entrance of Southampton Water.*

THE following are the marks and bearings for two buoys on the northern edge of the Brambles.—(*Extract from a Letter.*)—

THE buoy "black Jack" is a small black buoy, laid on the N.E. edge of Calshot Spit, about one quarter of a mile S.E. by S. from Calshot Castle, and is one of the buoys belonging to, and kept in place by, the corporation of Southampton, and lies in six feet low-water spring-tides.

The "chequered buoy" was laid down on the N.E. part of the Bramble Shoal, by order of Sir George Grey, in 1819, in consequence of the Royal George Yacht having touched the ground near that spot, when his late Majesty George the Fourth was on board; and has been kept in place, since that time, by the Admiralty, and is now lying with the following bearings and angles: viz.

##### BEARINGS.

Calshot Castle . . . . .	N 33° 0' W
Stone Point . . . . .	N 82 30 W
West Bramble Buoy . . . . .	S 71 0 W
N.W. do. do. . . . .	S 85 0 W



A red beacon buoy was also placed on the N.W. part of the Bramble Shoal, by order of Sir G. Grey, in 1821, and lies with the following bearings:

BEARINGS.	
Calshot Castle . . . . .	N 9° 0' E
Stone Point . . . . .	N 81 30 W
West Bramble Buoy . . . . .	S 20 0 W

I am, Sir,  
Your most obedient Servant,  
THOMAS ATKINSON.

To the Admiral Superintendent,  
Portsmouth.

*Marks for Bramble Buoys by the Trinity House:*

N.E. Bramble Checquered buoy.—Nelson's Monument just open to the eastward of a small house near Brown Cliff, eastward of Titchfield Haven E.  $\frac{1}{4}$  N.

The east end of Hamble Church, on with a red-roofed house on the point below Hook House, north.

N.W. Bramble Red Beacon Buoy.—The Windmill on West Cowes on with the middle house in Cowes Castle, S.S.W., westerley.

Nelson's Monument on with a house in a gap of trees southward of Hill Head, E.  $\frac{1}{4}$  N.—Hamble Church on with the highest part of Calshot Castle, N. by E., easterly.

15. POLLOCK'S REEF, *South Coast of Australia.*

"The barque Merope, Captain J. S. Pollock, on her voyage from Van Diemen Land, discovered a dangerous reef on the 11th ultimo, extending eight or ten miles, in due east and west direction, and about 100 yards in breadth, with apparently about two feet of water upon it. The western extremity, upon which alone the sea was breaking when the reef was seen, at 7 A.M., is in latitude 34° 35' south, longitude 123° 26' east, or fourteen miles S.  $\frac{1}{4}$  W., by compass, from South-East Island, of the Recherche Archipelago."—*Australian Paper*, 1834.

THE PORTLAND ROCK.

In our last number we gave the situation of the Portland Rock, as determined by a Mr. Ferron, and also from the remark-book of his Majesty's ship Winchester. We were struck by the suspicious coincidence of the two determinations, and (lest we should be deceiving the public by leading them to place undue reliance on such remarkable agreements) have since ascertained, that Mr. Ferron's observations were really those of the Winchester, although there was no person of such name on board that ship.

It is to be regretted, that any one should forward to a periodical like this a statement of such a nature, substantially correct, and expose it, at the same time, to doubt, by an assumed signature. Nevertheless, we thank our correspondent for his communication, and, if he should have any more information to give us, we hope his modesty may find sufficient covering under his initials only, or some classic cognomen adapted to his taste.

We are glad to take this opportunity of stating, that we consider the position of the Portland Rock, as given by the Winchester, entitled to the utmost confidence, inasmuch as we find that Mr. Napier was her master at that time, and as his Remarks at the Admiralty prove him to be, an officer of correct and judicious observation.



## ORIGINAL PAPERS.

I.—STEAM COMMUNICATION WITH INDIA. *Red Sea.*

IN a former number we laid before our readers the report\* of the select committee appointed to inquire into the means of promoting communication with India by steam. That report has led to the departure of an experimental expedition, to ascertain, first, how far that communication may be facilitated by the river Euphrates; the route which seems to be generally acknowledged as the most important, and which we are inclined to think will be eventually established. The second route for further investigation, alluded to in the report, is by the Red Sea, after a land-carriage from Cairo to Suez; and the third is the usual route by the Cape of Good Hope. A question of so much national importance in many points of view, cannot be otherwise than universally interesting; and, for the purpose of giving our readers a clear idea of it, we have prepared the map accompanying our present number. It is worthy of remark, that the Arctic expeditions for the discovery of a north-west passage, as often baffled as were those to the north-east, from the early time of Cabot, all had for their principal object the discovery of the means of penetrating by a short transit to the eastern world, or, in other words, to arrive at Cathay, China, or India. But we are now to profit by the experience of ages gone by; we shall no longer hear of our ships contending with icebergs, but for the sake of geographic discovery; and having turned our attention to the proper quarter, we are now to see how far, with the advantages of art, nature will admit of our making a *south-east* passage to India. Before we proceed to consider these different routes, we shall record the following particulars, and departure of the vessels and persons composing the expedition to the Euphrates:—

The Barque Transport “George Canning,” of four hundred tons, sailed from Liverpool on the 4th February, with the expedition for the Euphrates on board; she is to touch at the cove of Cork, in order to be accompanied thence to the mouth of the Orontes by his majesty’s steamer the “Alban.”

It is alleged that the port of Liverpool did not afford all the facilities in fitting out this expedition, which might have been expected from a place of so much commercial enterprise, and our greatest emporium of steam; and that the equipment of the vessels met with serious obstructions. Now, as to their not doing things so well in Liverpool as in London, we have our doubts, and can easily imagine that the charge has excited some merriment among the Liverpool people, and as to the “serious obstructions,” we shrewdly suspect that some alteration in the form of the boats from the original plan, after they had been commenced, was in some measure productive of them. The alteration was ordered, we believe, by Captain Chesney.

\* Vol. iii. p. 95, 96.



If fortunate in the passage to the coast of Syria, the two iron steamers (called the Euphrates and Tigris) will be landed in frame, as far up the Orontes as the east side of Antioch, and transported thence to the banks of the Euphrates, the lighter weights on camels, and the heavier on artillery waggons, which are carried out for this purpose.

Seven of the workmen who were employed in building the steamers, have been selected to go out to put them up, with the assistance of twenty artillerymen, chiefly smiths, who have been for some time under instruction in Messrs. Lairds' yard, for this express purpose; and prepared as the expedition is, in this and every other way, the whole work may be completed in time to commence a detailed survey of the river by the middle of May, in descending to the Persian gulf.

The proposed plan is to drop slowly down with the stream, preceded by country boats carrying coals, and also two or three light gigs to sound and ascertain the state of the river, so that the steamers may have timely notice where any obstruction exists; and having besides, a double diving-bell boat, with a complete set of mining apparatus; ring bolts and warping chains can be fixed at certain places, if it be found necessary.

During the preliminary voyage, when going from tribe to tribe, such explanations will be entered into, as are likely to make the Arabs comprehend the peaceable nature of the undertaking; and arrangements made for opening the floating bridges at Hilla, Dewania, and Feluja, on the appearance of the steamers when returning through these places.

The attention of the expedition is not to be confined exclusively to the steam communication—leisure moments will be devoted to the interesting field which Mesopotamia opens to the learned world; and these, with the addition of the time unavoidably consumed in erecting the steamers, and in their subsequent descent, will give sufficient opportunity for the gentlemen taking the departments of geology, botany, ichthyology, &c., to make the necessary examinations in that celebrated part of the world; where the first human formations may be looked for with confidence; and where the labour will be much facilitated along the banks by a rise and fall of sixteen or twenty feet of water.

#### *Dimensions of the two iron Steamers.*

##### *The Euphrates.*

105 feet long, 19 feet beam.  
2 engines of 25 horse power.  
Weight of the ironwork, exclusive of the machinery, 23 tons 1 cwt. 3 qrs. 7 lbs.  
Boilers, 16 tons 6 cwt. 1 qrs. 18 lbs.  
Draft of water under 3 feet.  
Weight of engines, 25½ tons.  
Ditto of wood-work and cabin furniture, 22 tons.

##### *The Tigris.*

85 feet long and 16 feet beam.  
2 engines of 10 horse power.  
Weight of the iron work, 14 tons 17 cwt. 2 qrs.  
Boilers, 7 tons 14 cwt. 3 qrs. 5 lbs.  
Draft of water under 2 feet.  
Weight of engine, 11½ tons.  
Ditto of wood work and cabin furniture, 12 tons.

The expedition has been placed under the command of Captain Chesney, of the Royal Artillery, who goes out with the rank of Colonel on this particular service, having a selection of naval and scientific officers, all qualified to assist in making an accurate survey of the rivers of Mesopotamia, as well as to accomplish the other important objects connected with the expedition.



## Officers of the Euphrates.

Lieut. Cleaveland, R.N.	{ From His Majesty's steamer Phoenix, fourth in command.
Mr. Charlewood, Master, R.N. eighth in succession.	{ From His Majesty's ship Salamander.
Mr. Fitzjames, Mate, R.N., ninth in succession.	{ From His Majesty's ship Winchester.
One engineer and two assistants ditto.	

## Officers of the Tigris.

Lieut. Lynch, Indian Navy, now in Syria making preparations.	{ 2nd astronomer, next in command after Col. Chesney, and formerly commander of the Enterprise steamer.
Mr. Eden, Master, R.N. sixth in succession.	{ From the Mediterranean steam packets.
Mr. Hector, Master.	{ Returned from the El Burkha steamer and Niger expedition.
One engineer and two assistants ditto.	

## Scientific Department.

Captain Estcourt, 43d Light Infantry.	{ Pendulum & Magnetic experiment, 3d in command.	Lieut. Cockburn, Royal Artillery, 7th in succession.	{ Assistant Draftsman, and in the survey.
Lieut. Murphy, Royal Engineers.	{ Astronomer and director of the Trigonometrical survey, 5th in succession.	Doctor Staunton, Royal ditto.	{ Physician and Naturalist.
Mr. Ainsworth.	{ Surgeon and Geologist.	Mr. Staunton.	{ Chemist, and Assistant in Natural History.
Mr. Vincent German.	{ 1st Draftsman and Assistant Engineer and Interpreter.	Mr. Thompson.	{ 2d Draftsman, and taking charge of the chronometers and other instruments, under Lt. Murphy.
Senor Riga.	{ Native of Constantinople, Apothecary and 3d Interpreter.	Hajji Hallil.	{ A musselman and 2d Interpreter.

The expedition\* is so arranged throughout, as to give a reserve in every department of duty or science, in case of illness or death. For instance, Lieut. Lynch would take charge of the astronomical observations, in case of the illness of Lieut. Murphy; and Dr. Staunton would supply Mr. Ainsworth's place, whilst the latter could in turn take his duties, and those of Mr. Staunton or Captain Estcourt.

Specimens are to be sent home occasionally from each department, or, failing the opportunity to do so, it is intended to supply the deficiency by lithographic sketches.

The route by the Cape of Good Hope appears to be the one least likely to be adopted for the employment of steam. But, although the experiment has been made by the Enterprise steam-vessel, it appears she was not calculated to give a fair result, being a vessel of 420 tons, with 120 horse-power; whereas Mr. Laird, a gentleman of much experience in these matters, has shewn that the pro-

\* Just previous to the sailing of the Euphrates Expedition, a tidewaiter on board the George Canning, named Dickson, who could not swim, fell overboard, when Mr. Fitzjames, R.N., mate of the ship, though it blew a gale of wind, and there was a high sea, instantly jumped overboard, in his boots, coat, hat, &c. and succeeded in reaching the drowning man, whom he held up by the hair of his head, (supporting himself by floating on his back,) and continued his grasp, down the stream, until the steamer overtook them, and picked them up. For this heroic act, the Corporation of Liverpool conferred upon Mr. Fitzjames the freedom of the borough, and several gentlemen presented him with a splendid silver goblet, with beautifully executed marine devices, bearing



portion of power to tonnage in steam-vessels should be nearly one-half. The average of twenty-four steam-vessels of Liverpool gives 175 horse-power to 371 tons, or nearly one-half. Mr. Peacock, in his evidence before the committee, states, that the *Enterprize* "left the land on the 16th of August, 1825, and reached Calcutta on the 7th of December, 1825; that was 113 days (of which she was 103 actually under way) from the land to Diamond Harbour. She used both sail and steam. The greatest run by sail in twenty-four hours was 211 miles, the least 39; the greatest by steam, assisted by sail, 225 miles, the least 80; \* \* the total distance was 13,700 miles, and the consumption 580 chaldrons of coals, being nine chaldrons per day for sixty-four days, the rest being under sail; \* \* the speed of the engines in calm weather was eight knots an hour, the log giving nine from the wash of the paddles. The speed of this voyage was not considered sufficient to warrant the expense and trouble; and *it does not appear that any very much better results can be expected*, because of the difficulties of getting relays of coals, and the time that must be wasted in getting them."

It would be idle for us to say, that the route of a steamer would not differ considerably from that of sailing-vessels. As far as circumstances will allow, it would evidently be her best plan to make her courses from land to land, between the various dépôts for coals, on the arcs of great circles, the course approaching nearest to a straight line on the sphere. And our nautical readers will perhaps agree with us, that it would be no very difficult matter for a suitable steam-vessel to make the passage by the Canaries, Cape Verds, St. Helena, the Cape, the Mauritius, and one of the Seychelles, to Bombay. The south-east trade-wind would, no doubt, render the passage between the Cape Verds and the Cape of Good Hope the worst and most difficult part of the voyage; and Captain

the following inscription:—"Presented to Mr. Fitzjames. R.N. of the Euphrates Expedition, by his friends in Liverpool, as a token of their admiration of his gallant heroism in saving a drowning man, in the river Mersey, on Sunday, Feb. 1st, 1835, at the imminent hazard of his own life."—This heroic and humane act of Mr. Fitzjames reminds us that we have not done justice to his shipmate and superior officer—and superior claimant, too, upon public gratitude—Lieut. Arthur Wakefield, who when first lieutenant of the *Winchester* (of which Mr. Fitzjames was then a midshipman) at Halifax, sprang overboard, and saved the lives of two men, and recently (as we perceive by the *Paris Papers*) was a third time excited successfully to a precisely similar act of Mr. Fitzjames: a seaman of the *Thunderer*, of which ship Lieut. W. is now first lieutenant, having fallen overboard, on the passage to Vourla Bay from Malta, Lieut. W. instantly plunged into the sea, and saved the man by laying hold of the hair of his head. The local circumstances not being the same, Lieut. Arthur Wakefield's being the instrument of *saving the lives of THREE MEN* has been unnoticed; but he ought not, on that account, to lose the just reward due to his successful and meritorious exertions.—*Plymouth Paper*.



Johnson, in the *Enterprize*, wisely kept out of its force, by making Isle St. Thomas, on the Equator, in the Gulf of Guinea, from whence he was able to steer a direct course for the Cape, under the lee of the African coast. But the *Enterprize* made her passage to Calcutta, and from the Sychelle islands had a considerable longer voyage to make than to Bombay. It appears that she made the Andaman islands, and from thence Diamond harbour. Still the advantages of the best equipped steamer are so completely overcome by the disadvantages in the route by the Cape, that there can be no doubt it will never become the high road for steam to India. The great space occupied by the machinery and fuel, independent of the necessary stores of water and provisions, leaving no room but for passengers—the delays in getting fresh supplies of coals to run a distance of 12,000 miles, the least that can be considered as the distance to Bombay—are weighty objections, to which may be added that the voyage may be performed in nearly the same time by a sailing vessel. It is said to have been made by the East India Company's ship, the *Marquis of Wellington*, in 81 days from land to land.\* This vessel, under the command of Captain Alfred Chapman, passed the Lizard on the 10th of June, and made Point Palmyras on the 30th August 1829. Little therefore can be said of the advantages of steam for commercial purposes by the route of the Cape of Good Hope to India, while so direct a communication is offered by the Red Sea or by the Euphrates and Persian Gulf; and we shall conclude this part of our inquiry with the opinion of Captain Wilson. He says, "With respect to the passage round the Cape, it would be superfluous to say more, than that no man who has had experience of long sea voyages by steam, or who has observed the effect of long-continued strain on the vessels and engines, and also that of the protracted action of fire and salt water on the flues and boilers generally, could even for a moment have believed it practicable that steamers could be constructed to make that voyage for a constancy with advantage."

As we shall, no doubt, be led to dwell mostly on the route by the Euphrates, in consequence of its being that of the present expedition, we shall proceed now to consider that of the Red Sea. And we will preface our remarks with another observation of Capt. Wilson's on the subject generally.

"It has been said," he observes, "the shipping interests are averse to the establishment of the steam communication; yet it does not appear how it can be prejudicial to them. The conveyance of merchandise must still continue round the Cape. Steamers can never be constructed to carry cargoes up the Red Sea; for a vessel calculated to carry sufficient coal, and cargo beside, must be of a model totally unfit to make way against a strong northwester;

\* Since the above was written, H.M.S. *Magicienne* has performed the voyage in 85 days, out of which 14 should be deducted as calm.



and were that possible, the expense attending the unavoidably great consumption of coal would be so enormous, that no profits on merchandise would pay its freight. If, however, an impression exists of its practicability, groundless as it may be, it is to be regretted, as it may array against the advocates of steam communication a body sufficiently powerful to throw great obstacles in the way, but whose co-operation would have been of considerable assistance."

So says Captain Wilson—and we cannot help thinking that that co-operation would also materially tend to their own advantage, in the direct proportion as trade improved.

But to proceed. The course, via the Red Sea, will be

	Distance.
Falmouth to Malta . . . .	2,200 miles.
Malta to Alexandria . . . .	860 "
Alexandria to Cairo . . . .	173 "
Cairo to Suez . . . . .	92 "
Suez to Aden . . . . .	1,295 "
Aden to Bombay . . . . .	1,641 "

But Socotra might be used as a depôt, as well as Mocha and Judda; and it might be preferred to embark on the Red Sea at Cossier instead of Suez, and the whole distance from Bombay, 4,261 miles, by this route, would be increased by a very few miles. Lake Menzaleh, at the Damietta branch of the Nile, is not more than sixty miles from Suez, by which the distance from this place to the Mediterranean might be materially reduced; and should the Red Sea communication be adopted, the Damietta branch of the Nile may hereafter be used, but at present it is considered that the pacha of Egypt would naturally expect that the intercourse should be through Alexandria, the capital of his dominions.

It cannot be denied by the most strenuous supporters of this route, that it is more circuitous, if not less certain, than that by the Euphrates, even allowing that a steam-vessel makes a direct course through the middle of the Red Sea. In fact, we must proceed on this supposition, as the shores of this sea are so completely fringed with coral reefs, as to present most formidable dangers to any vessel that may venture among them. In favour of the route by the Red Sea in preference to that by the Euphrates, it has been advanced, that there would be greater facilities for obtaining passengers, and that there are parts of the Euphrates which would be very difficult for any vessel to navigate, and where the passage might be interrupted by the native Arabs, while that by the Red Sea is always open, and will not be interrupted by any such obstacles. And we believe that these may be said to be the principal and only important arguments in its favour, for there are weighty objections established against this route, which



prevent its being available all the year round, while those to the Euphrates are yet to be investigated. As to opening a trade, as has been stated, with the inhabitants of Barbara and Ajam, which trade has declined since the East India Company's resident at Mocha has been withdrawn, we are disposed to consider that the whole question of commercial intercourse will greatly preponderate in favour of the Euphrates line. It has also been stated, that passengers from India would prefer the route by the Red Sea; but this we apprehend is more matter of opinion than of experience, as the route by the Euphrates is yet to be tried, and for our own part we should consider the violent north-west winds in this sea, that a steamer would meet with on her way from Aden to Suez, would be more disagreeable to passengers than those they would encounter on the Euphrates.

The passage between Bombay and Suez has been performed seven times by the *Hugh Lindsay*, a steam-vessel of 411 tons and 160 horse power; and it is remarkable, that, although these passages were made during the favourable season, that of the north-east monsoon, that the return passage from Suez to Bombay was made in very nearly the same time as that from Bombay to Suez. The mean number of days occupied, including all stoppages, is nearly thirty-one. The *Hugh Lindsay* must, however, be considered a small vessel, and, notwithstanding the prevailing opinion at Bombay, that a steam-vessel could not stem the south-west monsoon, it may yet be questioned whether a vessel of a thousand tons, with engines in proportion, might not be able to do so. Should this be done, the effect of the strong north-westers, which are the prevailing winds in the Red Sea, might not be sufficient to oppose her progress. But it is again a question, whether the expense in the wear and tear of such a vessel, and the time occupied in the passage, would not be so great as to render the expenditure greater than the return.

The south-west monsoon prevails from May to October; and Captain Wilson, the experienced commander of the *Hugh Lindsay*, in the East India Company's service, whose opinion we have already quoted, considers that it is most violent in July, August, and September, in which months he deems the passage from Bombay to Socotra altogether impossible for any steam-vessel. A violent current sets to the north-east, along the coast of Arabia, which is a lee-shore during this monsoon, with as heavy a sea as any where, excepting that off the Cape, against which a vessel would have to steam above a thousand miles. In the Red Sea, the winds prevail between west and north nearly all the year; and Captain Wilson observes, that "twice out of three times, therefore, the whole 3,000 miles between Bombay and Suez must be accomplished dead against strong winds and a heavy sea; and in almost all cases, 2,200 miles, at least, must be performed under such circumstances. Need I ask,"



he adds, "any experienced boat-engineer, whether vessel or engines could stand such work with advantage; and if such are the facts generally, will it be prudent to lay out large sums of money, and build vessels with a view to constant communication during the south-west monsoon." Indeed, it already appears that Capt. Wilson has acted up to his word, having refused to attempt the passage from Bombay to Socotra against the monsoon, when requested to make it by the Bombay government. And it speaks volumes in favour of the Euphrates line, that when Captain Wilson was asked, on his refusal, if he would go to the Euphrates, that he hesitated not, but went immediately: thus proving, that the Euphrates route will never be subject to interruption from the effect of the monsoons. Indeed, all nautical men, whether of steam-boat experience, or not, know pretty well the different effect of the wind and sea on a vessel with her head to them, and when that wind and sea are on her beam, and even then "drawing aft."

We learn from Mr. Peacock's evidence before the Committee of the House of Commons, that the reason of this experiment was simply from the failure of another steam-vessel built at Calcutta, named the Forbes. Great interest, it appears, is taken in India to establish steam communication with the Mediterranean. In the Bengal presidency, £15,000 was subscribed; in Bombay, £8,000; and at Madras, £4,000; to which subscriptions many native princes have contributed. "It was first proposed to make over the whole of the fund to the Bombay Steam Committee, to purchase a steam-vessel, and carry on the communication at their own discretion from Bombay; a deputation waited on the governor-general to request his assistance, and he proposed that the Bombay Government should lend the committee the *Hugh Lindsay*; that the establishment and the fitting of the *Hugh Lindsay* should be at the expense of the company, and that the coals should be provided by the committee. The Bombay committee declined to accept the loan of the *Hugh Lindsay*, on the ground that her coals would very soon consume the whole of their funds; that they had already had a sufficient experiment of what could be done by her, and that they wished to try what could be done by a cheaper vessel. The Calcutta committee took offence at this, and determined to carry on an independent experiment. Then, on another application to the governor-general, he agreed that the company should defray the hire and establishment of the Forbes steamer for three voyages in the year." This reminds us of the man in the fable, who told his sons to bring him a fagot, and gave them a good illustration with it of the advantage of pulling together." Had these committees done so, the result would have been different to what Mr. Peacock predicted. The Forbes, of 120 horse-power, started on her voyage, and even before she reached Point de Galle, to feel the effect of the monsoon, was obliged to put back. It was this circumstance which led to



the Hugh Lindsay making her passage to the Persian Gulf, and establishing the certainty of making good so much of that route all times of the year.

We have yet said nothing of the Isthmus of Suez, across which at present the traveller has to pass either on a dromedary or some other mode of conveyance. From Alexandria\* he will proceed to Cairo by the Nile, and from thence to Suez. But to expedite this part of the journey, while steam-boats will do their part on the water, a rail-road has been planned for the conveyance of goods and passengers to Suez. It is not supposed, however, that the present Pacha, Mehemet Ali, will ever have it constructed.

The old project of opening a canal between the Mediterranean and the Red Sea has also been mentioned. This intended communication being from Suez to the branch of the Nile running from Cairo to Pelusium, thence called the Pelusian branch. The line was surveyed by the French, whose observations shewed that the level of the Red Sea at Suez is  $30\frac{1}{2}$  feet higher than that of the Mediterranean. But there is a remarkable fact attending the question of the communication by Suez, namely, that the Hugh Lindsay, in one of her voyages from Bombay, was unable to reach that place from the violence of the wind. She was therefore obliged to stop at Cossier—clearly proving that a more powerful vessel than this is necessary, even for the Red Sea navigation. As yet, however, neither canal nor rail-road is constructed, and the transit across the Isthmus of Suez is to be made as it has hitherto been done. For the conveyance of fuel for the steam-boats, these would be of essential service, as they would materially reduce the expense of conveying it to the ports of the Red Sea, one of the most important features attending this route, when it is considered that the average expenditure of coals alone, in each of the voyages of the Hugh Lindsay to and from Bombay, amounted to the enormous sum of £5,000. We may therefore safely infer from

\* The following scale of charges have been regulated by the Lords of the Admiralty, for passages in his Majesty's Vessels to Portugal ;

	Cabin.	Steerage.
From Falmouth to Cadiz or Gibraltar . . . . .	£17	£9 10
From Ditto to Malta . . . . .	29	16 0
From Ditto to Corfu . . . . .	36	20 0
To or from Gibraltar and Malta . . . . .	14	8 0
To or from Gibraltar and Corfu . . . . .	22	12 0
To or from Malta and Patras . . . . .	8	5 0
To or from Malta and Corfu (via Patras) . . . . .	10	6 0
From Corfu to Malta direct . . . . .	8	5 0
To or from Malta and Alexandria . . . . .	10	6 0
From Corfu to Falmouth . . . . .	36	20 0
From Malta to Falmouth . . . . .	29	16 0
From Gibraltar or Cadiz to Falmouth . . . . .	17	9 10
Each passenger allowed to carry any weight of linen, wearing apparel, and books, not exceeding 400lbs.		



the foregoing, that if the route by the Red Sea be eventually established as a means of keeping up a constant and rapid communication by steam to India, that more powerful vessels than those in India must be employed. We shall therefore return to a consideration of the Euphrates route, and conclude these remarks with the following observations on the Isthmus of Suez, and the ancient canal from the Nile to the Red Sea, from the account of Mr. Charles Maclaren in the Appendix to the Report of the Committee.

“The direct distance from the north extremity of the Arabic Gulf to the nearest point of the Mediterranean is about seventy-five English miles; and to the site of the ancient Bubastis, on the Pelusian branch of the Nile, almost precisely the same. The length of a canal from sea to sea, following the most suitable ground, would be ninety-three miles; and that of the ancient canal, from the Arabic Gulf to the Nile, was about ninety-two. Some learned moderns, perplexed by the vague and contradictory statements of the Greek and Roman writers respecting this canal, have called in question its existence altogether, except partially as an aqueduct for irrigation. The French survey, however, has not only put to rest these doubts, but ascertained the precise line which it followed: of ninety miles of inland water communication of which it consisted, it appears that sixty-five were cut by human labour, and of these sixty-five about one-half yet exists in a state more or less perfect. In many parts it is still so entire that its dimensions can be measured with tolerable accuracy, and little more than cleaning out would be required to render it navigable.

“The Isthmus of Suez consists on the north of a low barren plain, slightly broken by hillocks of drift-sand, and pools of salt water. It rises gradually as we proceed southward, till it terminates in mountainous land on the east and west sides of that arm of the Red Sea called the Gulf of Suez. But between these ridges of high land a trough or hollow extends northward from Suez, which is evidently a continuation of the cavity occupied by the waters of the Gulf. Its direction may be distinctly traced by a series of lagoons or pools, reaching from the lake Menzaleh to the Red Sea, the southmost of which are called the Bitter Lakes. The bottom of this trough is every where many feet below the high-water level of the Gulf, except for about three miles at its southern extremity; and even here the soil is so low, that it would be submerged, were the waters of the Red Sea to rise three or four feet above their usual elevation.

“From a point in this principal valley, about the middle of the Isthmus, another long valley branches off to the west, and extends to the low grounds which skirt the Nile. The western part is called Wadi (the Arabic word for valley) Tomylat, and the eastern part, Wadi Sababgar. The ancient canal ran through this valley, the bottom of which is likewise many feet below the high-water level of the Gulf.



“ By a series of levels carefully taken, the surface of the Arabic Gulf at Suez, at high water, was found to be 9·907 metres (thirty feet six inches, French) or thirty-two feet six inches, English measure, above that of the Mediterranean at Tyneh, in low water. The mean rise of the tide in the Red Sea at Suez was found to be about five feet six inches, French, and that of the Mediterranean about a foot. It is evident, therefore, that were a channel cut to the depth of three or four feet through the sandy isthmus which divides the Gulf from the Bitter Lakes, the waters of the Red Sea would flow northward into the bason of these lakes, and then pass on to the Delta, and to the lake Menzaleh, which communicates with the Mediterranean. They would encounter no obstacles in their course, except from certain dykes which run across the Wadi to shut out the annual inundation of the Nile. In extraordinary floods, however, the Nile surmounts these barriers. In 1800 it submerged the long valley to the depth of twenty-five feet in some places, and penetrated to the Serapeum. A rise of ground here, most probably artificial, stopped its progress, and, but for this obstruction, its waters would have filled the basin of the Bitter Lakes, and reached to within a few miles of the Red Sea. It may be safely stated, therefore, that there is not a spot in the world where a water communication of equal extent could be made with the same facility, and where human skill would produce so great a change with so small an effort.”

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## II.—THE MARINE BAROMETER.

*To the Editor of the Nautical Magazine.*

SIR,—I have been induced to transmit you a few remarks on the Marine Barometer. I do so, with the object of pointing out its present inadequacy for making accurate meteorological and other observations, and suggesting some alteration and addition, which may render it fully equal to those purposes.

The Marine Barometer has now become so universally used at sea, and its indications are so well known and appreciated, that I consider it superfluous to enter into any remarks upon the subject; it is sufficient to observe, that, to the seaman it is an instrument of the utmost value and importance; one which may with some truth claim the appellation of a friend, who, sensible of approaching changes, changes on whose influence he is so entirely dependent, gives that timely warning which enables him to guard against their effect. The instrument, as at present constructed, is perhaps sufficiently correct for such purposes, when it is considered that such changes are predicted solely by the fluctuation of the mercurial column, without any reference to the actual



height of the column itself. But, while the instrument is thus consulted, in order to detect any changes which are likely to occur, it is as often considered as an instrument capable of recording meteorological variations; its application to such purposes are by no means uncommon, and considerable time and labour has been expended in registering its indications, and reliance placed on the results, which become totally worthless, from the imperfect construction of the instrument.

My object is to render it more worthy of confidence, and extend its application to purposes connected with meteorology, a science which has become within these few years a subject of scientific, as well as popular research; and there can be no doubt that such an instrument in the hands of naval officers, will confer much benefit to that science; more especially when it is considered that it is one to which they must direct considerable attention, and which may almost be said to be incorporated with their profession. The source of error which renders it inapplicable to meteorology, is the want of some method to maintain the level of the mercury at some definite fixed point in the cistern, from whence the divisions have been laid off. To denote the variations of the atmospheric pressure, without some such contrivance, is impossible; all observations so recorded must be vague and unsatisfactory, as an error may result, which will assume a very marked character, according to the pressure exerted on the cistern. That such is the case, daily experience is sufficient to substantiate, from the well-known fact, that no two instruments on board of different ships, and in the same harbour, will indicate the same observation; and this remark is applicable indeed to those in the shops of the *makers*. This alone is enough to point out the necessity for improvement.

Before, however, making any suggestion for that purpose, it may not be foreign to the object in view, if some few remarks on the application of the barometer to scientific purposes are here introduced.

The very general use of these instruments, at once declares the confidence so generally reposed in them, from their affording a knowledge of those atmospheric changes, both on land and sea, on which we are all so dependent. We indeed find them under every variety of form, and certainly many of the rudest description, and they sufficiently answer all the purposes for which they were designed. Yet, their forms being improved, and their constructions varied, under the guiding hand of science, they have become, from their original object of forewarning, instruments adapted to more refined purposes, and higher utility, by their application in the determination of problems the most interesting in physical science: affording to the engineer, the geologist, or the traveller, the means of determining the heights of the various mountains which are the objects of their research; while, with equal and unerring truth, it



traces the presence of depressions of the earth's surface below the level of the ocean, that merit their attention and observation.\* It aids the meteorologist in his discoveries in the earth's atmosphere, by tracing those minute diurnal variations which, twice during the period of twenty-four hours, assume a maximum and minimum,† or gives indications of more marked irregularities, which reduced and recorded assist materially in supplying that general knowledge by which its laws are regulated.

To the seaman, and the husbandman, it proves of great importance, by its indications of the weather, more especially indeed to the former, who, consulting this simple and unerring guide, is enabled to carry sail with confidence, or shorten sail in time : thus, saving to Government, and the owners of vessels, the liability of risk and loss, not only in wear and tear of materials, but often in ships themselves ; a fact attested by the experience of many an old officer.

I cannot dwell in this place on the many interesting facts connected with such observations, or the precautions and attention which they require ; reference must be made to those authors who treat on the subject. It must, however, be obvious to all those who have participated and interested themselves in such pursuits, that the field for observations in the navy, connected with meteorology, is one of vast extent ; the whole navigable globe is extended before our ships, and, if in each which daily traverses the ocean a daily register were recorded, from the indications of a correct instrument, much valuable matter would in time be elicited, for the benefit of that science. In fact, a chain of contemporaneous observations‡ might with ease be observed and recorded around the whole globe. To construct such a chain of a permanent description, fit for the intended purpose, would require that each link (barometer) observed be compared one with another, or with a standard at Greenwich, or the sea-ports, to insure that uniformity of principle and construction which such observations demand, as it is alone by knowing the comparative errors of instruments, when consulted for contemporaneous observations, that they can be rendered available to science.

Before alluding, however, to the alteration which I am about to describe, it may be advisable to explain by a few diagrams the principle of error to which I have alluded.

The mercurial column supported in the tube of the barometer

\* The depression of the Caspian Sea below the level of the Black Sea, was first determined by barometer-observation, by two Prussian travellers, in 1814, and found to be 334 feet. A vast territory of nearly 18,000 square leagues maintains the same situation. T. B. Ass.

† The hours of maximum about 9 A.M. and P.M. ; minimum 3 to 4 A.M. and P.M.

‡ If ever observations should be conducted on such a scale, the observations should be taken at certain hours, Greenwich mean time.



depends on the atmospheric pressure, and that pressure is always measured from the surface of the Mercury in the basin or cistern.

In the accompanying diagram, fig. 1, let A represent the cistern, B the surface of the Mercury, C the tube, and D the attached scale, which is divided into inches, the zero of the scale corresponding with the surface of the Mercury B. The indication of the atmospheric pressure is denoted, as in the figure, by 30·00 inches.

Fig. 1.

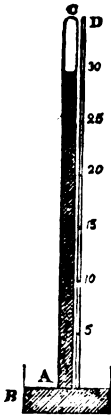


Fig. 2.

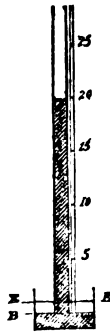


Fig. 3.



Let us now suppose that the barometer has fallen from 30·00 to 20·00 inches, being an extreme case, for the purpose of illustration; a certain quantity of mercury necessarily flows from the tube, and rises its former level B, which now assumes that denoted by E E, Fig. 2. It must be obvious, that the scale can now no longer denote the true atmospheric pressure, because the zero should correspond with the new level E E; being a fixture, it still corresponds with B, and therefore there is an error in the pressure indicated by the scale equal to EB. To obviate this source of error, a simple contrivance, called a level or gage, is adapted to barometers intended for delicate observation. The most simple of these, to explain the principle, consists of a small pointed piece of ivory, as at G, Fig. III, secured to the upper part of the cistern, which has a moveable bottom, acted on by a screw at F, by which the level of the mercury in the cistern can be elevated or depressed. We have before supposed the scale to extend the whole length of the tube; that such is not the case, every one is aware; a few inches, from thirty-two to twenty-seven, being sufficient to indicate the variation of the atmospheric pressure. These divisions of the



scale are laid off from some fixed point in the cistern which denotes the zero; in the case before us, the pointed piece of ivory acts that part.

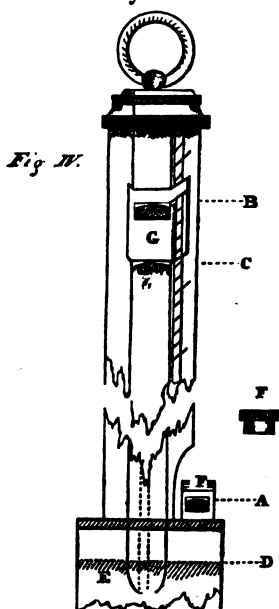
Should the barometer either rise or fall, which naturally causes the surface of the mercury in the cistern to assume in the first case a lower level, and in the other a higher, it is either elevated or depressed by means of the screw, until the mercury touches the point of ivory G, or the zero of the scale; and thus, by means of this simple contrivance, of which there are various descriptions, the true atmospheric pressure is always denoted.

To the Marine Barometer, I have applied a gage of the Mountain Barometer description, as at A, in Fig. IV., consisting of a piece of glass tube inserted into the cistern, and having a cover of brass, with an aperture on each side, and a cover F, which screws on, to prevent the escape of mercury when the instrument is carried. This gage answers the same purpose as the ivory G in Fig. 3, the top of the aperture at A corresponding with the zero on the scale, from whence the divisions are laid off, and to which the mercury is elevated by means of the screw acting on the cistern.

In conjunction with this gage is a vernier, as seen at G, Fig. IV., which has also an aperture near the top, and on each side of it. The upper part of this vernier, as shewn at B, is always used in conjunction with the gage at A.

Suppose the ship to be in harbour, or sufficiently steady at sea to admit of the application of the gage, or that the instrument for the purpose of observations has been removed on shore; having allowed the mercury to descend from the top of the tube, by slackening the screw at the cistern, and unscrewed the cover which is placed on the gage at F, to allow of a free admission of air, elevate the mercury until a segment of light is visible over its convex surface in the gage at A; place the vernier over the upper surface of mercury, using the upper part of the aperture as at B; the result of the observation will denote the true atmospheric pressure, provided the scale has been properly adapted, and laid off from A.

If the ship become unsteady, or, if on leaving harbour it be





required to render the instrument the common marine barometer, the mercury is allowed to descend in the cistern until the upper surface in the tube corresponds with the lower part of the vernier, as at C. The vernier not having been moved from the observation previously taken, the reading off remains the *same*; the mercury has, however, flowed from B to C, and also from A to D; and the same observation is obtained as before, but the instrument is now the common marine barometer.

In these two cases, the instrument is capable of correct indications, and applicable to scientific purposes; viz. the determination of the heights of hills, as also the minute variations of the atmospheric pressure, and other purposes connected with meteorological observations; at the same time it is readily rendered, when required, the common marine barometer, possessing the great desideratum, of having in the instrument itself the means of knowing to what height the mercury should be elevated or depressed, to denote the true atmospheric pressure, and which the present instruments are unable to do, with any degree of precision.

The construction of the gage, as also of the cistern, may vary according to the idea or wish which different observers may have. The divisions of the scale should be engraved to .500 of an inch, and continued down to twenty-five inches, which will admit of measuring altitudes of about 5000 feet, or still lower, to admit of deducing greater elevations, while the general construction of the instrument should be thoroughly renovated.

Mr. Editor, I am afraid I have trespassed more extensively on your pages than I first intended; my apology must be my wish to lay before you some improvement in this instrument, which I have attempted to do in the foregoing observations; and, in conclusion, must remark, that in connection with those valuable skeleton registers which have been so ably drawn up by Lieut. Becher, it may assist in throwing some light on our knowledge of meteorology, and aid in extending the boundaries of science.

I remain your most obedient servant,

ALEXANDER MILNE, Commander, R.N. F.R.S.E.

*Note.* I may here remark, that I have had an instrument constructed by Mr. Jones, of Charing Cross on the above principle, which I am led to think will answer every purpose, and with the addition of Mr. Galbraith's excellent barometric tables, will be found highly useful in deducing the elevation of mountain ranges.



*The French and English inches used in the Barometer scale, reduced to millimetres. (From the Annuaire.)*

ENGLISH BAROMETER.			ENGLISH BAROMETER.			FRENCH BAROMETER.		
Inches.	Tenths.	Millimetres.	Inches.	Tenths.	Millimetres.	Pouces.	Lignes.	Millimetres.
24	0	609.59	27	4	695.95	26	0	703.82
	1	612.13		5	698.49		1	706.07
	2	614.67		6	701.03		2	708.33
	3	617.21		7	703.57		3	710.59
	4	619.75		8	706.11		4	712.84
	5	622.29		9	708.65		5	715.10
	6	624.83		0	711.19		6	717.36
	7	627.37		1	713.73		7	719.61
	8	629.91		2	716.27		8	721.86
25	9	632.45	28	3	718.81	27	9	724.12
	0	634.99		4	721.35		10	726.38
	1	637.53		5	723.89		11	728.63
	2	640.07		6	726.43		0	730.89
	3	642.61		7	728.97		1	733.15
	4	645.15		8	731.51		2	735.40
	5	647.60		9	734.05		3	737.66
	6	650.23		0	736.59		4	739.91
	7	652.77		1	739.13		5	742.17
26	8	655.31	29	2	741.67		6	744.42
	9	657.85		3	744.21		7	746.68
	0	660.39		4	746.75		8	748.94
	1	662.93		5	749.29		9	751.19
	2	665.47		6	751.83		10	753.45
	3	668.01		7	754.37		11	755.70
	4	670.55		8	756.91	28	0	757.96
	5	673.09		9	759.45		1	760.22
	6	675.63		0	761.99		2	762.47
27	7	678.17	30	1	764.53		3	764.73
	8	680.71		2	767.07		4	766.98
	9	683.25		3	769.61		5	769.24
	0	685.79		4	772.15		6	771.49
	1	688.33		5	774.69		7	773.75
	2	690.87		6	777.23		8	776.01
	3	693.41		7	779.77		9	778.26

The above table is useful for ascertaining the corresponding height of one barometer given in the measure of the other. Thus, 26 in. 2 lines of the French barometer very nearly correspond with 27.8 in. of the English; and the exact quantity may be found by a very simple proportion, which would be, 1 p 54 mm : 1 in. = 1.50 mm. The result will be 0.97 inch, and the corresponding height of the English barometer for 26,2 of the French would be 27.797,—

As, 1 Pouce = 27.070 } Millimetres.  
And 1 Ligne = 2.256 }

If it were required to reduce the French barometer 24 p. 5 lin. to millimetres, not given in the table, an easy method would be to subtract 54.14 millimetres (equal to 2 pouces) from 715.10, (the equivalent of 26 p. 5 lin.,) which would give 660.96 millimetres.



## III.—AUTHORSHIP OF ANSON'S VOYAGE.

Your correspondent "Centurion" deserves better than to be left in the dark respecting the author of Anson's Voyage. He evidently is desirous of investigating the truth, and anxious that justice should be done to those who deserve it. He ought, therefore, to be apprised of the original foundation of the story, and then I think he will consider that there is more than he at present imagines in Robins's claims.

Dr. James Wilson, a man of no inconsiderable science, collected Robins's works in 1761, and, having been the author's personal friend, prefixed a biographical preface, in which he particularly mentions the assistance given in drawing up Anson's Voyage. The passage is long, and you may not have the book at hand, so I have copied it out on a separate paper, which you may either put into your correspondent's hands, or make any other use of, as you think proper.

Your obedient servant,

ALPHA.

*Extract from Dr. Wilson's Preface to Robins's Tracts, p. xxxvi.*

In 1741, Mr. Anson, (now Lord Anson, and at the head of the Admiralty, when our fleets carry terror wherever they appear,) as Commodore in the Centurion man-of-war, accompanied with other ships, began his voyage round the world, which, though by disasters it had not all the success that might have been reasonably expected, yet under this great commander were produced many brave and skilful officers, who at present do so much honour to the British Navy. Of the voyage, the public had for some time been in expectation of seeing an account composed under his Lordship's own inspection. For this purpose, the Rev. Mr. Richard Walter was employed, as having been chaplain aboard the Centurion for the greatest part of the expedition. Mr. Walter had accordingly almost finished his task, having brought it down to his own departure from Macao for England, where he proposed to print his work by subscription. Then, Mr. Robins being recommended as a proper person for reviewing it—on examination, (notwithstanding the shortness of the time that could be allowed for such an undertaking,) it was resolved that the whole should be written entirely by Mr. Robins: what Mr. Walter had done, being, as Mr. Robins informed me, almost all taken verbatim from the journals, was to serve as materials only. And, upon a strict perusal of both performances, I find Mr. Robins's to contain about as much matter again as that of Mr. Walter; and, indeed, the introduction entirely, with many dissertations in the body of the book, were composed by Mr. Robins, without having received the least hint from Mr. Walter's manuscript; and, what he had thence transcribed regarded



chiefly the wind and the weather, the currents, courses, bearings, distances, offings, soundings, moorings, and the qualities of the ground they anchored on, with such particulars as generally fill up a sailor's account. So, this famous voyage was composed in the person of the Centurion's chaplain by Mr. Robins, in his own style and manner. Of this, Mr. Robins's friends, Mr. Glover and Mr. Oxenden, are witnesses, as well as myself, we having compared the printed books with Mr. Walter's manuscript.

And this was at the time no secret, for, in the counterpart of an indenture now lying before me, made between Benjamin Robins, Esq., and John and Paul Knapton, booksellers, I find that those booksellers purchased the copy of this book from Mr. Robins, as the sole proprietor, with no other mention of Mr. Walter, than a proviso in relation to the subscriptions he had taken.

Thus, as many of Mr. Robins's smaller pieces came abroad without a name, so this larger volume was printed in the year 1748, under that of another. But, though Mr. Walter appears in the frontispiece, yet Mr. Robins was so well understood here to be the principal author, that he was universally congratulated on its success. And, indeed no production of this kind ever met with a more favourable reception from the public; four large editions were sold off in less than a twelvemonth, and it has been translated into most of the languages of Europe; and it still supports its reputation, it being this year, 1761, printed here for the ninth time.\*

(Then follows an eulogium on the work, with the high opinion expressed by D'Alembert, and others, upon it.)

I have chosen to set down rather these foreign testimonies to the advantage of Mr. Robins's performance, than to enlarge myself in its commendation; since the inviolable friendship that is well known to have subsisted above twenty years between us, may be thought to influence my opinion.

We are indebted to a much valued correspondent for the above, in reply to the inquiry of Centurion, in our last number. Mr. Robins' claims to the authorship appear to be set up by Dr. Wilson at the expense of Mr. Walter's talents as a clergyman, who, in the capacity of *Chaplain* to the ship, could surely have made some other remarks than those which "Mr. Robins" stated as being supplied by the log-book! It is remarkable, that the narrative, to the time of Mr. Walter's leaving the ship at Macao, abounds most with incident, and occupies (if we remember rightly) more than three-fourths of the work. This must have been obtained from some other source than the log-book! Dr. Wilson, to prove his "friend" being the author, (no favourable feature, by the way, to his cause,) alludes to an indenture lying before him, in which no mention is made of Mr. Walter; but he says nothing of that in Centurion's communication† to us, in which no mention is made of Mr. Robins! It is more than likely that Mr. Robins brought out the various editions which followed the first; but was it Mr. Robins' narrative or Mr. Walter's, that was laid before the king by Lord Anson, when the latter gentleman was presented to his Majesty George the Third by his former captain. Ed.

\* The fifth edition, at London, in 1749, was revised and corrected by Mr. Robins himself.

† See page 786 of our third volume.



## IV.—ADVENTURES ON SHORE AND AFLOAT.

“ Mettere in Istoria le mie avventure : e vi so dire che non son poche.”—*Rosini*.

## No. 1. BEN THE SAILOR.

ONCE upon a time, when I was allowed a two months' run on shore in England, after returning from a five years' spell abroad, I went to London, fully resolved to see the “ lions,” and amuse myself like any private gentleman who has the happiness to be his own master. Chancing at that time to be flush of cash, I cruised about the streets from morn till night, seeking for ways and means to rid myself of what is well known to be too burdensome for sailors long to carry. Many allurements I encountered right and left, in the shape of splendid dressing-cases, rose-wood writing-desks, books, music, silver-mounted ten-keyed flutes, &c. ; these there was no resisting ; but the instrument I longed for most was a grand fowling-piece. Now, touching that, I paused ; but, after three days' coquetting, yielded, and for a double Joe-Manton had to come down with not a few double Joes in the shape of dollars, bearing the representation of His Most Catholic Majesty *el rey de España*, which I had bagged in the shape of prize-money for sundry captures made off Cuba. On shewing my purchase to a thrifty tradesman, at whose house I lodged, he said, “ That's a fine article indeed, and I suppose it cost a fine price ? fifteen or twenty pounds perchance ? ” — It would be a lucky chance indeed, old gentleman, to find one so dog-cheap as that, I said ; but I chanced to pay more than threescore.—The man of fleecy hosiery looked aghast, and I thought I could read in his calculating countenance something like a conjecture, that if I squandered my stores so lavishly I might forget to pay *his* score. Not wishing, therefore, to go upon trust with one who harboured ought like distrust of my honesty, I civilly requested him to let me have a bill of every thing which he had furnished me, such as stocks and socks, hose, silk and cotton, satin brettels, &c. &c. ; also the articles of housekeeping ; telling him, finally, to add with those sundries the rent of my apartments up to the end of the month, which was not quite expired. When he found himself thus liberally dealt with, and put my givings in his purse, there was an end to his misgiving looks ; but he put on one of astonishment when the servant appeared with some of my recently bought luxuries. Several times he exclaimed, “ Bless me, how fine ! you seem to have a taste, young gentleman, for what is costly : positively, when an English sailor has the *Spanish*, he lays it out like a Castilian grandee.”

As soon as my thrifty landlord left the room, I began to



examine the goods which had given rise to his apostrophe. True, I did not say, "Thrift, thrift, Horatio," but, looking at the total amount of my costly purchases, I began to think I had been clapping far too strong a purchase on my purse-strings, and that one in my station should not be guilty of such rank extravagance. A grave old captain, who called in upon me shortly after, seemed to entertain a similar opinion. He merely asked if I had provided all these superfine superfluities to take out as a venture to India? When told that they were already arrived at their destination, and were designed for my own especial service, he knit his brows, and said, "Friend Ben, I'm sorry, because I do not like extravagance, and very much dislike a dandy officer." Do you like none but rough yarns, captain? men of the "chew-tobacco-Jack" school? said I. "No, I dislike both extremes Ben; neither the half savage, nor the whole coxcomb, shall be recommended by me as models: I would have you try and hit the happy medium, also to be prudent and have some foresight. You have been fortunate; but it doth not follow, boy, that you may always be so. Fair weather and favourable gales are often succeeded by adverse storms. He who comes home prize-master of a galleon one trip, may be made to trip into a French prison the next." Oh, sir, don't mention that; the idea of my setting my foot into a French prison is a thing that never once entered my head, I replied. "Ah, but the whole body of you might enter easily enough for all that: think of all the chances and mischances of war; the amazing risk we run in boating, where the odds are frequently so fearfully against us. I'm perfectly amazed at our success in that department." And I as perfectly delighted. "Well well, I like your spirit, Ben, too; and far be it from me to try and damp your ardour; but what have we got here? these articles are not yours, surely? A time-keeper, a sextant, a silver-mounted case of instruments, with all those books of charts! to whom do these belong, Ben?" To me, sir, your unworthy godson and most humble servant. "Indeed! and is it fitting you should have such things at present? I think this outlay of your money rather premature. Yet I approve of it much more than of your extravagance in purchasing so many of yon costly toys." Why, captain, as you say, it may be somewhat premature to lay in all these articles; but hear my reasons. Such things are necessary.—Yes, boy, for a captain!—Well, sir, and I intend to be one.—Where's your interest, where are your friends?—My head, my heart, and hands, said I.—Well done, my hearty! added the old gentleman. But at all events, Ben, your money might have been put in the funds until the time came to get these things.—Well, I declare I never thought of that: but, sir, as I came up here wickedly bent upon fooling away some of my money, I could not commence squandering until I had provided such things as I so ardently desired to



possess : no, sir, I could not reconcile that to my conscience, and I thought that if I neglected to get them, now I had the means, something might turn up hereafter to prevent me.—Ben, I admire the honest ambition you have to attain distinction in your profession. A sextant you require at once ; the other matters may be safely housed until it is time to ship them ; and now, for the present, I have little to say, except that in this old Russia leather case I had brought a gift for a worthy godson, which I shall not now bestow upon him. No, no, I am not so soft ; to give you the coal now, would be like sending it to Newcastle, when you have so much to squander, and such determination to get rid of it. Why, Ben, you are a regular tar, in that respect at all events, though you seem a little inclined to come my lord Tom over us with these fine gewgaws and smart toggery. Why you're such a Mac, I should not wonder if in a few more boards you fetch Almacks.

On taking leave, the captain told me the uncle of Edmund Barton, my former messmate, was in town, and wished to see me. I therefore wrote down his address with the intent of calling on him, but the same afternoon I met him in the park, and was flattered greatly by the cordiality of his reception, though when I doff'd my beaver I had doubts if he would recognize me in plain clothes, as he had only seen me once before, and that on shipboard. He was staying at the Bedford, and invited me to dine there with him the day following : this I thought very apropos, for I was anxious to visit a tavern, which my highflying messmates cried up as a place resorted to by pleasant company, and where especial good fare was to be met with. I confess I found their good report made good in all particulars ; we met good fellows, ate good food, drank a good deal of good wine, and I reckon our good host had a good deal to pay by way of reckoning, for he discharged the bill.

Having treated myself to a sporting apparatus, when the tailor brought my jacket home I began to consider on whom I should bestow my company during the first week in September. I knew some country gentlemen, yet, on reflection, thought I scarcely was entitled to make quite so free as to take them by surprise. While I was hesitating to whom I should write, just at the very nick of time, in came squire Barton, and to my great delight invited me to go with him and spend a few weeks in the country, saying, if you are fond of rural sports, my boy, I can promise you enough, for game with us this season is abundant. I said, he did me honour, but I could not think of thus intruding on his family.—Young gentleman, my family will be most glad to see you ; ay, and delighted in the opportunity of shewing civility to one who merits the best welcome we can give him. We bear in mind the obligations Edmund owes you : so give me your hand,



in token that this affair is settled: I start at eight on Thursday. You shall have a seat in my carriage. You need not bring a gun or a dog. We are all shooter-men, and famously provided.—But, sir, I have just bought a beautiful Joe Manton, and long to try if I can knock a bird down right and left with it.—All right, young master; in that case your gun-case shan't be left behind; I'll stow it in the seat. Bring *double Joe* with you, and single out as many birds in the covey as come to your share; but we shall expect you to shoot fair. You must not “draw, or offer to draw,” a trigger at a hare, of course, for we love coursing; nor at a hen pheasant, for if you do, my gamekeeper will be cock-a-hoop, I'll promise you, and I don't wish him to crow over any of my guests. Men of his stamp generally think that sailors know no more about shooting than riding, as, instead of mounting horses, you lay out upon the hawses; and your favourite fowling-pieces are good two-and-thirty pounders, with which it must be owned you wing the enemy most gloriously.—I promised I would shoot so as neither to transgress the laws of sporting, nor incur the wrath or ridicule of gamekeepers, who so delight in making game of *snooby* nimrods and *muffy* shooter-men.

Having dispatched my heavy baggage by the van on Tuesday, two mornings after, at the hour appointed, I shipped myself, gun-case and *sac de nuit*, in the squire's carriage: en route we took up a young counsellor, cousin to Edmund, a most intelligent facetious man, whose wit and fun made us feel as if we had inhaled Sir Davy's laughing-gas. I never felt so sprightly in my life; my very blood seemed to ferment within my veins, as though it had been turned from claret to champagne. The charming country through which we passed served as a most appropriate introduction to the lovely spot at which the carriage stopped. I never saw a house more eligibly situated, or that better deserved a flowery description. But, as Dominie Samson says, I shall “pretermit” attempting to depict these sylvan charms, because, though I can sketch funny faces on a door with chalk or charcoal, I do not think myself clever enough to turn *scene painter*.

Among the number of the squire's inmates were the mother of my friend Barton and her youngest daughter, so singularly like the middy, I could have almost sworn that Mun had put on petticoats to set out on a masquerading party. These amiable ladies so overwhelmed me with thanks, that I was *confusioné* completely. They would insist upon my listening to reiterated compliments, because I had rendered Edmund such invaluable services. I made light of such good offices: however, I was happily conscious that I had been useful, not to him alone, but many other youngsters, by helping them to gain a knowledge of their duty, and more especially by making them study navigation. Edmund pretended to be wholly destitute of mathematical capacity at first,



but I convinced him to the contrary by making him, in less than eighteen months, a great adept in figures. This he attributed alone to me; and vowed, that but for my instructions he should have known no more about taking lunars than the man in the moon. The fact is, master Edmund was a very clever though an idle boy, who came unwillingly into the service, being sent from motives of convenience, but he afterwards continued in it voluntarily when the option was given him to relinquish a sea-life if he thought proper. How fortunate it is for Old England, that so many dashing, gifted, spirited young men become attached enthusiastically to the naval service; for what would become of the country, if not supplied by a succession of brave youth ready to bleed in her defence? Edmund's instructors erred in their mode of teaching; harshness was not available with such a disposition; I tried persuasive means; coaxed and encouraged one who had too much courage to be browbeaten into any thing; and soon found that Mun had in him the right stuff of which heroes are fashioned, and I predict these qualities will one day make a man of fashion of him—not a poor two-legged animal fit only to set modes for dandies; or to waste his time in consultation with crack tailors about the cut of pantaloons or building of a coat; but one who will know how a ship should be built, and rigged, and worked, and fought, so as to give the enemy a proper working: in short, to be an officer, not less fit to be distinguished on a quarter-deck at sea, than to shine in drawing-rooms on shore; for brave men, when true gentlemen, and when they bear their honours meekly, are ennobled in the estimation of their country.

But, to return from this digression to the fire-side of squire Barton. There, I found every social enjoyment a young sailor could desire; hospitality, good nature, and good cheer combined to make me feel in clover. As for our amusement in the stubbles, that was capital; although, to own the truth, I believe the sportsmen were more amused at my missing the birds than at their knocking them down themselves. The counsellor, though such a sharp-shooter at the bar, was, next to myself, the greatest muff in the field; he made no hits, though he continually cried out, I've peppered him! I saw the feathers fall!—Then go and pick them up, George, said the squire with a grin; they will do to make pens for writing out your next brief, though I expect we'll have a *brief* account of them. If we don't dine until we get partridges roasted of your shooting, we shall go hungry, boy, to bed, I fear.—Sometimes he cheered me on, and cried, there's a fine shot; you can't miss that, if you fire with your eyes shut. But I did miss them, though with my eyes open.

"That's a handsome piece, sir," said the game-keeper, "but it has not found out the way to shoot yet." "Ah! you terrible old wag, 'tis I that have not found out the way to use it; the gun knows



how to kill, not I. Pray let me see you try it once." "O Lord, sir, certainly, if you desire it, I'll take a shot; but let me load it." While we walked up the field, Counsellor George, sneaking along a hedge on tip-toe, took aim in such a situation, that the gamekeeper was in an ecstasy of terror for his dog. "Come back, sir, pray come back—you'll shoot my dog; I'd rather let you cut my liver out than shoot that liver-coloured bitch; she's worth as many diamonds as you could stick into her skin." Up went the covey—bang, bang, went the counsellor, and away went the birds with all their feathers. Bang, bang, went the gamekeeper, with my double Joe, and down went a brace of them. I was amazed, the birds had got so far before he thought of firing. Nothing astonishes a young sportsman so much, however, as the long shots by which the adepts bring down their game, and their amazing sangfroid. The hurry of a tyro shakes his nerves too much to let him take a steady aim, and that is the chief reason of his missing. "Well, sir," said the gamekeeper, "this gun don't shoot so much amiss." "You took good care not to miss with it, certainly." "Why, no, I should not much care to do that when the birds fly so fair, for fear I should lose my credit first, and my place afterwards; for I am here on purpose to kill game." "And I to shew that I can't touch a feather." "Well, sir, you may touch feathers now; here are the birds; handsel that natty game-net with them." "No, Williams: by no means; I am not going to shine with borrowed plumes; no sailing under false colours for me; I scorn to bag the game killed by another." "I like your spirit, Mr. Ben," said the squire, "and I'll back you yet against the counsellor." And had he betted he would have won, for I actually killed five birds the first week, and the counsellor but three.

Finding myself so poor a shot, my zeal soon cooled, and I often stayed at home hunting after rare books in the library, for the squire was a reading man, and had a capital collection, not kept constantly locked up for show. The counsellor said he had quite enough reading when in town, and therefore persevered in his field sports, paying right dear, the squire observed, for all he killed, as every partridge cost him at least a pound of powder and sixteen pounds of shot, value eight shillings and ten pence; so, had he sold his birds at market, he would have had a rare unprofitable trade! Some days I went coursing, others fishing, and frequently took walks in search of subjects for the pencil—ay, and others for the pen. By way of falling in with odd characters, I used to drop in among the guests in the travellers' room, at the inn of the neighbouring town, and once accompanied a gentleman to a house where all the farmers met to dine upon a market-day. I was excessively amused by these good yeomen, whose plain blunt manners formed a strong contrast to those of the knowing chaps I met with in the shape of riders, strolling players, itinerant musicians, legerdemain



professors, and others of the class called, commonly, diverting vagabonds. Amongst the farmers were none of those angular features and haggard countenances I noticed at the travellers' *omnibus party*. The physiognomy of one large weather-beaten portly man, fixed my attention most especially, and I began Lavarizing him. Though he kept handing round samples of grain, and talked most knowingly about cures for the rot in sheep, stall-feeding oxen, and such matters, still I conceived his manner and appearance more bespoke the seaman than along-shore man. When he got up from table, I inquired of a chatty person who sat next me, who was that person going out? "What, that big chap, who swings his arms about so clumsily, and has a queer hitch in his walk?" The same. "O, that's a true rough diamond, an honest friendly fellow, but a rum one; he goes by the name of Ben the Sailor, to distinguish him from another man in this town who has the nursery-grounds—I mean, Ben Bradford." So, so: I find I have made a good land-fall, though I had nothing to go by but a dead reckoning. I thought the old bleacher looked more like a man who had been in the habit of boxing the compass than threshing wheat.

There is something about a seaman that betrays him, even when disguised in leathern leggings, a fustian jacket, and a miller's hat. Being anxious to have some conversation with him, finding he was going home my road, I rode after him, and soon joined company. During our chat I purposely sported a few sea-phrases, thinking thereby to make him show his colours; but my man fought shy, pretending not to understand me, when I asked him why he took a *sheep's shank* in his horse's tail? "A sheep's shank! well I never heard the like of that; I'd like to know the meaning of that speech." Indeed! now, on a moderate calculation, I think a greenhorn like myself could never poze such an old stager as Farmer Bradford, alias Ben the Sailor.—A sailor! how did you make that out? do I smell of tar? I use that for my sheep, to rub their *shanks* sometimes. Yes, old boy, and you have used tar to a great *pitch* on shipboard many a time and oft, to pay the dead-eyes, long enough before my eyes beheld the light of life.

Come, that will do, young gentleman; you have twigged me; ay, and I twigged you before the dinner was half over, and would have tipped the countersign with all the veins in my heart, if we had been alone: but thus the matter stands—these chaps choose to nickname me for their own amusement, so I don't like the fun. Once a captain always a captain, is a proverb, but not once a sailor always a sailor. It does not follow that the sauce that is good for the big fish is fit for the small fry. Now that's my argument: they call me Ben the Sailor, although I have not had my foot on shipboard for these twenty years, and only seen the ocean at a distance once, having the look-out on the top of a stage-coach, going on business to Cumberland.



Now, sir, I think that I should be a shameful fellow if ashamed to own that I have been a sailor, nor am I backward at confessing I did duty forward; yes, on the fore-castle, of which I was made Captain, and served as such five years in a first-rate; and where, although a cut above a rope-maker, I spun many a good long yarn to make the middle watch seem short.—Well, and I hope your stuff is not all spun out, namesake Benjamin, for I am also honoured with the title of Ben the Sailor, and I shall keep it long enough, I reckon: nicknames are apt to stick to one like limpets to a rock.—Yes, yes, they do so sure enough, as my worthy old commander, a certain gallant admiral, found to his coast. Now, this is vastly disagreeable. I suppose you are up to what I mean?—Yes, yes, I think I smell a rat; ay, ay, a man may get *on slow*, himself, but any thing against him, whether it be his fault or not, goes the round of the world, fast as ill winds can carry it.—But may I venture to inquire how you came to get your shore-tacks on board? You must have been most valuable to your country twenty years ago.—No, no, some two-and-twenty summers back, I might have been accounted worth a trifle to the service, when I was ploughing the Atlantic ocean, little thinking about driving plough-shares in the ground.—What! did you leave the tiller, to steer the plough? No, not so bad as that, because I was not equal to the thing, had it been necessary, being then crippled in my starboard foot.—Wounded perhaps, in action?—No, no such luck; that shabby dog, Jack Frost, bit off a couple of my toes: this was a *mortifying* affair to a poor fellow in the prime of life; but what with colds and pleurisies I got terribly damaged in the hull: so to the hospital of Hull they sent me.—O my poor Ben, that was a sad affair! I always have thought it a most grievous sight to see the manly form of an intrepid sailor stretched on the iron bed of an infirmary, surrounded by miserable wheezing weavers, whose thread of life is just about to be divided by the shears of Clotho.—Or the doctor's lancet, my young master. O what millions are cut off annually by this *bloody* system of blood-letting! but I made them let it alone in my case; I would not find arms for their lancets, or skin for their leeches.—Well?—Well, here I am, and *well*, thank God!—That's pleasant; I wish some doctors were here to hear your *cutting* remarks; they must have had some trouble to manage you, Ben; bringing you to a small helm must have been no joke, I take it; and the taking of their stuff!—Oh! I used to pour that into the spitting-pot; I take it!—How shockingly you must have been out of your element! What did you think of hospital fare?—The most *inhospitable*! precious bad luck to all such caterers: Skilligalee Jack was a fool to them; and he nipped close, I promise you.—I suppose you got the ordinary fare—I thought it extraordinary unfair: spirits, dead neaps; wine at low-water mark; but as for spring-water, that was always at spring-tide: so, though the freshes had not set in, we had the greatest dread of inundation. The thing that vexed me most was



to hear the doctors swear it was that water-drinking concern that set my hull afloat again : sink their queer notions !—Yes, yes, Ben, they are a small matter queerish ; they think their patients should have nothing but water, while they drink wine galore themselves. But I am all amazement at your getting your foot out of their hands.—Why, I thought I had put my foot in it, when I crossed the threshold of the hospital : I groaned when I went in, but whistled when I came out cured : for though no soldier, I expected to have gone out with the Dead March in Saul. One night my dead-lights were as near shipped as possible ; he's gone, poor devil ! said one nurse. No, but he's just going off the slip, said the other ; let us just hold the smelling-salts to his nose. No, wet his lips with a drop of brandy. She put a glass to my mouth ; I managed to send it down the scuttle into the *bread-room* ; that brought me round ; and next morning, when the doctors asked me how I was, I whistled “Drops of Brandy.”—Ben, I would rather be your wine-merchant than your apothecary any day ; for I dare say you have great dealings with the former, and small with the latter.—O you may say that ; I give your doctors a wide berth. They *cooked* me nicely once ; therefore I am not so *raw* as to let them come again : they cut me once, therefore I cut them in return. I don't want carving, so I carve away at the roast beef, at no allowance. I have done with banyan days now, as you shall see if you will condescend to come and dine with Farmer Bradford !—Pray may I ask how you came to embark in this line ?—Why, when I left the Barky, I began to think I should never be the man to grasp the man-ropes any more, my prospects were bad, as the pirate said when he saw the gibbets on the Isle of Dogs. Ah Jack, Jack, said I to my messmate, take this knife, for I shall have no more use for it on shore or afloat.—Why so ?—Because I shall not be able to earn my bread, even if I recover.—Never say “die,” quoth Jack—I won't if I can help it, but how shall I help myself now, for I shall be a cripple, even if I get the better of my body-blows ?—Lord help you, my poor Ben, said Jack, you have my prayers.—And they were heard, for the Lord did help me ; and just when I went home stumpy from the hospital, I got the *stumpy*. You stare, for you are not up to snuff ; this is one of the new queer names for money. How fond people are of christening it anew, 'tis such a universal darling ; why its like the spoiled child in the family, to whom every body gives their own pet name ; well I got the kelter, the goldfinches, the corianders, the mocuses, the blunt, the stumpy ; in short, and if you'll call upon me at the farm to-morrow I'll tell you all about it, but I must wish you now good afternoon, because I've got some business to transact which needs dispatch. Thus, then, I took leave of my new acquaintance, with whom I was so much amused, that I resolved to call on him the following morning.

M. J. D.



TABLE XIII.

*For reducing Constantinople (Great) Feet to English YARDS,  
and English YARDS to Constantinople Feet.*

1 Constantinople Great Peak = 0.7317271 English Yard.  
1 English Yard = 1.3666353 Constantinople Peak.

Peaks, or Yards.	English Yards and Dec. parts.	Constan. Peaks and Dec. parts.	Peaks, or Yards.	English Yards and Dec. parts.	Constant. Peaks and Dec. parts.	Peaks, or Yards.	English Yards and Dec. parts.	Constan. Peaks and Dec. parts.
1	0.732	1.367	38	27.806	51.932	75	54.880	102.498
2	1.463	2.733	39	28.537	53.299	76	55.611	103.864
3	2.195	4.100	40	29.269	54.665	77	56.343	105.231
4	2.927	5.467	41	30.001	56.032	78	57.075	106.598
5	3.659	6.833	42	30.733	57.399	79	57.806	107.964
6	4.390	8.200	43	31.464	58.765	80	58.538	109.331
7	5.122	9.566	44	32.196	60.132	81	59.270	110.697
8	5.854	10.933	45	32.928	61.499	82	60.002	112.064
9	6.586	12.300	46	33.659	62.865	83	60.733	113.431
10	7.317	13.666	47	34.391	64.232	84	61.465	114.797
11	8.049	15.033	48	35.123	65.598	85	62.197	116.164
12	8.781	16.400	49	35.855	66.965	86	62.929	117.531
13	9.512	17.766	50	36.586	68.332	87	63.660	118.897
14	10.244	19.133	51	37.318	69.698	88	64.392	120.264
15	10.976	20.500	52	38.050	71.065	89	65.124	121.631
16	11.708	21.866	53	38.782	72.432	90	65.855	122.997
17	12.439	23.233	54	39.513	73.798	91	66.587	124.364
18	13.171	24.599	55	40.245	75.165	92	67.319	125.730
19	13.903	25.966	56	40.977	76.532	93	68.051	127.097
20	14.635	27.333	57	41.708	77.898	94	68.782	128.464
21	15.366	28.699	58	42.440	79.265	95	69.514	129.830
22	16.098	30.066	59	43.172	80.631	96	70.246	131.197
23	16.830	31.433	60	43.904	81.998	97	70.978	132.564
24	17.561	32.799	61	44.635	83.365	98	71.709	133.930
25	18.293	34.166	62	45.367	84.731	99	72.441	135.297
26	19.025	35.533	63	46.099	86.098	100	73.173	136.664
27	19.757	36.899	64	46.831	87.465	200	146.345	273.327
28	20.488	38.266	65	47.562	88.831	300	219.518	409.991
29	21.220	39.632	66	48.294	90.198	400	292.691	546.654
30	21.952	40.999	67	49.026	91.565	500	365.864	683.318
31	22.684	42.366	68	49.757	92.931	600	439.036	819.981
32	23.415	43.732	69	50.489	94.298	700	512.209	956.645
33	24.147	45.099	70	51.221	95.664	800	585.382	1093.308
34	24.879	46.466	71	51.953	97.031	900	658.554	1229.972
35	25.610	47.832	72	52.684	98.398	1000	731.727	1366.635
36	26.342	49.199	73	53.416	99.764	2000	1463.454	2733.271
37	27.074	50.566	74	54.148	101.131	3000	2195.181	4099.906



## VI.—ILLUMINATING BUOYS.

*To the Editor of the Nautical Magazine.*

I WAS much pleased, Mr. Editor, at observing the improvement you made on the suggestions which I had the honour to submit to you, respecting the rendering of buoys luminous, so that they may become serviceable during the night. Whilst the subject was still fresh in my mind, I happened to peruse the beautiful ballad of the "Inch-cape Rock," and this with no small degree of interest, for it points out a method of denoting by the sound of a suspended bell, the position of a buoy placed upon a danger :—

"The Abbot of Aber-brothok  
Had floated that bell on the Inch-cape Rock ;  
On the waves of the storm it floated and swung,  
And louder, and louder, it warning rung."

The utility of such an appendage, to buoys which are placed at the verge of banks, rocks, and shoals, at night, and during foggy or hazy weather, when the horizon is obscure, and the land hid from the sight, must be obvious to every person ; and it is surprising that so simple a contrivance has not hitherto been attended to : if the bell be nicely poised, a very little agitation of the wind or water would cause it to "give tongue," and thus warn the mariner of his approach to the danger over which it is suspended. The direction of the sound perhaps could not at all times be depended upon, so as to become a guide sufficiently correct to admit of a vessel being piloted by it, through a channel, especially in tidal waters ; but it would at least give warning, and the danger avoided, which, in the absence of such monitor, might be otherwise.

The plan adopted from Captain Lillicrap's suggestion, of rendering the buoys in harbours available for the purpose of saving the lives of persons who may accidentally be thrown into the water, is as efficacious as it is simple, during the continuance of daylight ; but at night, when the buoys become invisible, it is obvious that the utility of the invention is rendered inefficient. To remedy this imperfection, and to render the philanthropic intention adequate to the occasion, throughout the entire twenty-four hours, all that seems necessary is, to suspend a bell over the buoy, from the sound of which its position will be pointed out. We need scarcely remark, that the bell should be very nicely poised, that sound may be produced. The water being pretty constant in motion from tide or wind, the buoy will always be sufficiently agitated to move the clapper of the bell.

Since my former communication, I have met with the following interesting account of the glow-worm light :—

Mr. John Murray, in a communication to the Royal Society, has deduced from his own experiments, that the luminous matter of the glow-worm is not connected with the respiration of the animal, nor derived from the solar light ; that it is not affected by cold, nor by magnetism, nor by submersion in water. Trials of submersion in water, in various temperatures, and in oxygen, are detailed. When the glow-worm was immersed in carbonic acid gas, it died, shining brilliantly ; in hydrogen it continued to shine, and did not seem to suffer.

Mr. Murray infers, that the luminousness is independent, not only of the respiration, but of the volition and vital principle.

Some of the luminous matter obtained in a detached state was also subjected to various experiments, from which it appears to be a gummo-albuminous



substance, mixed with muriate of soda, and sulphate of alumina and potash, and to be composed of spherules. The light is considered to be permanent, its eclipses being caused by the interposition of an opaque medium.

12th Nov.

A TAR.

P.S. By your last number, just received, I find that Mr. Braham has anticipated me with respect to the "bell."

1st Dec.

## MISCELLANEOUS INTELLIGENCE.

### NEW BOOKS.

**A TREATISE ON MARINE SURVEYING.** By Thomas Chas. Robson, of the Hon. East India Company's Service. Longman, London.

This is a work intended for beginners in Marine Surveying. In the course of two pages of introduction, which, however, are not examples of the author's best manner, because they allude to points for which the reader is not yet prepared, he states that "those who wish to acquire a knowledge of this science should be familiar with decimal and fractional arithmetic, with the first six books of Euclid's Elements, and practical geometry; he should possess a knowledge of some of the fixed stars, and understand the logarithmic calculation of plane and spherical trigonometry;" and further, that he should be able to use the sextant, theodolite, azimuth and prismatic compasses, and should understand their adjustments, and should know the use of scales and dividers in protracting lines and angles.

We think writers on any branch of science would save much time to themselves and their readers, especially if the latter have not come by their education by regular steps, by laying before them thus, at the outset, the qualifications necessary in the order of things, for entering on the subject. Against the above list we have only to object, that not all the first six books, but certain propositions only of the first, second, third, and sixth books are necessary, one proposition of the fourth book, and none in the fifth. The elements of trigonometry are then given, but we cannot discover the utility of working to seven places of figures in the examples, more especially as the tables furnished by the author at the end of the book, and which, "it is hoped, will render the work complete," &c. (preface, p. xv.) are carried to six places only. It is, no doubt, useful to a beginner, to be well drilled by examples; but after an abundance of examples in trigonometry, it was scarcely necessary to supply thirty-five more of heights and distances.

The account of terrestrial refraction, which is so troublesome an element to deal with in the accurate calculations of the heights of hills, is unusually meagre. The author has not even alluded to an approximate correction for these effects, as  $\frac{1}{2}$  or  $\frac{1}{4}$  of the intercepted arc, nor even marked the extremes of these effects, which are sometimes stated at  $\frac{1}{4}$  and  $\frac{1}{2}$  of the arc, any further than by saying that, at a distance of eight or ten miles, it is found to vary from 30" to 2'. The example given (at p. 37) which includes a distance of 38' between the stations, gives the refraction at about  $\frac{1}{4}$ . In this case, corresponding observations are made at both stations; but as this cannot always be done, Mr. Robson has left the beginner in ignorance whether it is advisable to apply any correction or not to observed elevations or depressions; and this is the more to be regretted, as it is a subject on which many persons, and all beginners, are very much in the dark, and on which we had a right to expect some informa-



tion in a work published in 1834; nor has the author referred his readers to any dissertations or treatises whatever for information on this matter, an omission which we take the liberty of considering inexcusable in an author on any subject in these days; when information exists on almost every subject, it becomes the business of authors to tell us where to get it. All that Mr. Robson has given on problems involving long distances, is concisely and clearly expressed, a recommendation that goes a long way with us.

The description of the instruments already enumerated are very complete, and the manner of using them well laid down. In levelling with the theodolite, a complete example should have been given, because the subject in all its branches is one of great interest and importance to a generation born in an age of rail-roads and canals; since also this is a matter in which system must be followed, and in which, accordingly, every practical man has his own plan, it was incumbent on an experienced author to give the student an approved form, ready for immediate use, instead of leaving him to lose his time in bungling into one for himself.

One great difficulty in the composition of elementary works seems to be, to preserve unity of design, by which all parts of the work are equally adapted to the reader for whose use it is written. Thus, in p. 56, in a note, is the direction for applying the declination to deduce the lat. from the mer. alt., a point of too great importance to a beginner to be treated of in a note. So also in p. 81, after the directions for finding the rate of a chronometer from the transit of a star, for a *sidereal* day, no direction or example is given for reducing it to the solar day, except the expression "by simple proportion," which a beginner will not be much the wiser for. In some remarks on taking the lunar observation at sea, the author does not evince any preference to the observation as made by one observer or with the help of assistants. On this we have to remark, that it is difficult enough, on shore, to observe accurately an altitude at the instant another person may require it; but at sea, where the vessel is in perpetual oscillation, and where, perhaps, the motion affects the observers differently, an observation at the word of command is impossible; and we are surprised that writers of any experience in these points should continue to overlook this circumstance. Mr. Robson then lays down the directions by which an observer may reduce the observation to a given instant; but as these directions have no example appended to them, and as they are to be found in most works on navigation, we think they should have given place to matter more in point.

In observing altitudes by the artificial horizon, a suggestion is made, which, though acted on by practical observers, we do not recollect to have seen in print, namely, that no doubt will arise as to which limb is observed, if attention be paid to the opening or overlapping of the images.

In noticing the more portable form of an horizon, by a glass plate and spirit level, the author omits to make any comment on its accuracy or utility. It would have been becoming, at least, if Mr. Robson had given a beginner in the art the result of his experience of both these instruments, the only piece of information that was worth having.

In p. 68, the author appears not to have learned that the *Nautical Almanac* is now computed to mean time, though we have examples dated since the change!

Under the head "Time" in larger capitals, we hoped, from the author's manner, to find a short and clear account of the astronomical times, which are generally about as ill understood as most parts of the subject, but the author enters on nothing beyond finding the time at Greenwich.

Under the head "Latitude" we looked, from a writer of experience, for some remarks on the comparative merits of several methods in use, but after the



precepts for applying the declination, and several examples of mer. altitudes, amongst which we find no directions for selecting such observations as will tend to destroy the errors of the instrument, we are dismissed with a reference to books on navigation. The author gives Mr. Littrow's method by the pole star.

In computing the time, the author gives a second method from the requisite tables. We profess in general not to understand what authors means by 2d, 3d, or 14th methods. If one method be better than the other, the worse should be expunged. If, on the other hand, a second method be needed for verification of one computation, why is not a second method needed for every computation? But the 2d method should at least be as good as the first. Now the 2d method before us has the vice of employing two separate kinds of elements of computation, namely, natural numbers, and logarithmic quantities, a mixture which opens the door to confusion in taking out the one kind of quantity for the other. Moreover, this method requires a table of log-rising, which seems to have escaped the author's notice when he stated the tables to be complete. On many occasions our author uses *thirds*; these are not so concise as the fractions of a space, which being the ultimate attainment of accuracy, both in time and space, should be the smallest *unit* allowed to appear in the calculation.

We do not think that Mr. Robson has always kept before him, with sufficient clearness, that he is writing on marine surveying, and that he introduces nautical astronomy as only subordinate thereto. Thus, in "Longitude," he says of Jupiter's satellites, "the principal objection to them is, that they are not useful at sea." It would have been more consistent, in our judgment, with the design of the work, to say, that "the method is inferior to moon-culminating stars, or to certain other methods, in point of accuracy." It is also, we consider, a great defect in this work, that the author does not impress on the minds of his students, the difference between determining the absolute longitude of a place, and its relative longitude with reference to some principal station; which relative longitude, or difference, is measured by chronometers. Thus, for instance, if a beginner, for want of knowing better, were to fix one station by lunar observation, and another near it by Jupiter's satellites, and then to measure the difference of longitude by chronometers, he would not know, by Mr. Robson's treatise, to what to attribute discordance in his results, and therefore would be in the dark as to what to do. No experienced person, indeed, would fall into such a dilemma; but it is the business of a work written for inexperienced persons, as much to guard them against falling into a wrong way of going to work, as it is to teach them the right way.

The author has introduced a long extract from Sir J. Herschel's paper on sound, and has given many cases of base lines measured by sound.

At p. 109, in laying off the base line with reference to the meridian, we think it would be not only shorter, but better, after describing the arc EN, to lay off the chord EN equal to twice the sine of half the  $\angle$  BAN at once, and to join AN: because the method of the author, who first lays off CD, and then determines EN from it, has the defect of determining a large quantity from a small one, whereby the errors of protraction, &c. are doubled.

The problem of fixing a point by means of two angles, observed between three considerable objects, is treated at great length. The survey of a bay or harbour is described with great clearness, and contains many valuable suggestions. In p. 154, the author recommends the fixing of the bearing of the base-line by the sun's amplitude: a method scarcely to be recommended in high latitudes, where the sun sets very obliquely to the horizon, and where, consequently, any small error of the horizontal refraction, whether celestial or terrestrial, must defeat any attempts at accuracy, although in the latitudes



in which the author seems to have been principally employed, it might do well enough.

In laying down soundings taken at different times of tide, the author observes, that as no rule can be laid down, the surveyor must make himself thoroughly acquainted with all local circumstances.

In surveying a coast from the base afforded by two vessels anchored off it, the author remarks, all the angles on one side of the base should be observed first by both vessels, and then those on the other side, to reduce the errors which may arise from the motion of the vessels as much as possible.

It is singular enough, that while the author in the preface should have insisted on the necessity of becoming acquainted with the physical character of a coast, he has omitted all notice of the methods already in use for expressing this important matter in the charts.

In finding the meridian line by equal azimuths, it is to be regretted, on account of beginners, that an example is not given in full; and in the method of circumpolar stars, no example at all is given. Surely if it is necessary to give such a number of examples of a more humble kind, it was still more so to give some of those which are of greater importance.

The author concludes with a formula, or log-slate, of a day's employment of a surveying vessel.

With regard to the nautical astronomy, we think the author might safely have left it out altogether. The partial view of the subject admitted in the work before us, cannot, of course, supersede the necessity of reference to works written on that particular subject; and therefore we think that nothing is gained by introducing any matters of nautical astronomy, except such as might be supplementary to the works already published.

Mr. Robson's book is well got up, and the type is good; and so correctly is it printed, that there is no list of errata, and we have fallen on very few errors of the press. The clearness of the author's style makes us regret that he has not entered more into practical details, as he would thereby have given his work additional value; but it is one that should be in the hands of all beginners.

**A FEW OBSERVATIONS ON THE NATURAL HISTORY OF THE SPERM WHALE;** with an Account of the Rise and Progress of the Fishery; with the Modes of Pursuing, Killing, and Cutting in that Animal. By Thomas Beale, Surgeon. Effingham Wilson. 1834.

Having accompanied a ship in the whale fishery, Mr. Beale, on his return, finding so much ignorance prevail at home on the whole subject, has set to work, and produced the little brochure before us, to enlighten his countrymen. He has given some very interesting particulars respecting the "leviathan of the deep," sufficient to allure the most thoughtless to a perusal of his work, and has besides enriched it with a list of its favourite places of resort.

**A VISIT TO ICELAND,** by way of Tronyem, in the "Flower of Yarrow" Yacht, in the Summer of 1834. By John Barrow, Jun. Murray. 1835.

There is something "taking," to use a homely phrase, in the appearance of this little work at first sight. The subject is an attractive one, and it is illustrated by numerous wood-cuts, in the same good taste which we observed in



"the Excursions to the North of Europe," by the same author. But we have not yet been able to devote due attention to it, and must defer for another number our notice of Mr. Barrow's interesting narrative.

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**MISCELLANIES.** By the Author of the Sketch Book. No. 1, containing a Tour on the Prairies. Murray, 1835.

Whoever has read the Sketch Book," (and who has not?) will anticipate no ordinary treat from the Miscellanies of Washington Irving. A short year or two ago, he landed from England on the shores of his native country, and betook himself to the Prairies, the land of pemmican and "*bois brulés*," that wild and extensive district in the very heart of North America, that not long since witnessed the foul deeds, ay, the reckless murders, of a tyrannical company of freetraders now extinct. The work abounds with interesting descriptions of scenery, the native Indians, and the exciting and animating accounts of the buffalo hunt, told with that elegance for which their author is celebrated.

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**THE LIFE OF SAMUEL JOHNSON, LL.D. ;** including a Journal of his Tour to the Hebrides, by James Boswell, Esq. ; to which are added, Anecdotes by Hawkins, Piozzi, Murphy, Tyers, Reynolds, Steevens, &c., and Notes by various hands ; a new edition, with plates. Volume I. Murray, London.

This is the first volume of a new edition of Boswell's Life of our great Lexicographer, uniform with that of Crabbe and others. It is got up in Mr. Murray's best style, and, as it will of course include the various additions of Croker and other writers, will form one of the most interesting and valuable works of English literature. The Work is published at five shillings each volume. The present one is embellished with a capital scene at Tunbridge Wells, in which the principal characters of Johnson's early days are well represented.

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#### NEW CHARTS.

**THE GULF OF BENGAL.** Sheet VI. Chittagong, Kyook Phyoo, Ramree. Compiled from the Surveys of Captain Laws, R.N. Capt. Ross, *Bombay Marine*. Price 2s. Admiralty. No. 1511.

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**THE GULF OF BENGAL.** Sheet VII. Negrais, Rangoon, Martaban. Compiled from various Surveys, by Capt. D. Ross and J. Crawford, *Bombay Marine*, and Lieut. Roe, R.N. Price 2s. Admiralty. No. 1511.

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**THE GULF OF BENGAL.** Sheet VIII. Tavoy, Mergui. Compiled from various Surveys, by Capt. Ross and other Officers. Price 2s. 6d. Admiralty. No. 1511.

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**THE GULF OF BENGAL.** Sheet XII. Andaman Islands. By Lieut. Blair and Capt. Moorsom. Price 2s. Admiralty. No. 1511.

The above charts appear by the numbers on them to form part of a series intended to comprehend the Bay of Bengal, which had never been published on a larger scale than that of a general chart of the whole Gulf, but which, for



many reasons, required to be detailed on a scale better suited to the objects of the navigator. It would seem also that the Eastern seas, which have so long been left to the exclusive care of that well-known and experienced hydrographer and navigator, Capt. Horsburgh, whose knowledge of Eastern hydrography and whose excellent judgment are universally acknowledged, are at length attracting the attention of the Admiralty. This is the more opportune, as it happens at a time when the East India Company having resigned their commercial character, there is reason to fear that the mixed nature of the present mercantile navigators of those seas may not have the means of contributing so largely to hydrography as their predecessors; and yet stand more in need of hydrographic assistance. We have no fear, however, that the Directors of the East India Company, in that enlightened protection and patronage which they have shewn to every branch of science, and which have led to many valuable surveys, will withdraw that support which they have uniformly given to this. But to return to our purpose. We find that these charts are on a scale of one inch nearly to ten minutes of longitude, all of them on the Double Elephant half-sheet; and we have besides,

**CHEDUBA STRAIT AND RAMREE ROAD AND HARBOUR.** By Captain Laws, R.N., H. M. S. *Satellite*. 1830. Price 2s. 6d. Admiralty. No. 1537.

**KYOOK PHYOO HARBOUR.** By Captain Laws, R.N., H.M.S. *Satellite*. 1830. Price 2s. 6d. Admiralty. No. 1536.

**BENTINCK SOUND.** By Mr. N. Icely, Master-Assist. of H.M.S. *Satellite*. 1830. **THE MOUTH OF THE TAVOY**, by Commissioner A. D. Maingy. 1830. **THE UPPER PART OF THE RIVER TAVOY**, by Lieut. R. Moresby, *Bombay Marine*. 1824. **PORT OWEN**, on the East Side of Tavoy Island, by Mr. H. J. Julian, Mid. of H. M. S. *Satellite*. 1830. Admiralty. Price 3s. No. 1560.

**THE RIVER NEGRAIS**, on the Coast of Ava. By Captain J. Crawford, *Bombay Marine*. 1826. Price 9d. Admiralty. No. 1539.

**RANGOON RIVER.** From the Surveys of Capt. D. Ross, Surveyor General, and Mr. J. Douglas, Master of H.M.S. *Boadicea*. 1825. Price 9d. Admiralty. No. 1542.

All these sheets form an extensive and valuable addition to our hydrographical store of the Eastern seas, and display a combination of skill and talent, which is the more to be commended because it is the result of the laborious exertion of officers unconnected with the surveying department of the navy, and who have turned that little opportunity to a good account, which is afforded by the general duties of the naval service. But, in saying this, it would not be right to omit adding, that, but for the enlightened views of the gallant Commander-in-Chief on the East India station, Rear-Admiral Sir Edward Owen, who justly estimates the value and importance of hydrographical knowledge to our fleets in general, this opportunity might not have been turned to so good an account, and the surveys conducted by the officers under his command, from which the greater part of these charts have been constructed, would never have been made; and, to have obtained them, it might hereafter have cost



much money, and perhaps even the lives of those employed. Happily, then, this was foreseen, and we have the satisfaction of recording it as an instance of what may be effected by the orders of a Commander-in-Chief. The plans of the harbours are on a good scale, and display distinctly their various features sufficiently for the purposes of the navigator.

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**THE GULF OF ARTA.** By Lieut. W. J. Cooling, H. M. S. Mastiff. 1830. Admiralty. Size, half double elephant. Price 3s. No. 418.

The scale of this plan is about three-fourths of an inch to the nautic mile, by which the whole of the gulf, and its approaches from sea, are well shewn. The entrance between Prevesa and the sandy spit on which Fort La Punta is situated, is given on an enlarged scale, and the soundings and coast-line, of this classic portion of the globe, are here for the first time accurately laid down.

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**NEW ZEALAND.** From original Surveys. By T. M'Donnell, Lieutenant, R.N. Wyld. London. 1835.

'As yet we know comparatively little of the hydrographical features of this distant and interesting part of the world, and, excepting some few portions of its coast by French navigators, Mr. M'Donnell has delineated the whole islands on a larger scale than we have yet seen them. Although necessarily incomplete, it is the best at present provided for the navigator, and combines the latest discoveries and surveys of French and English surveyors.

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**THE ISLAND OF MADEIRA and its Dependencies.** Wyld. Lond. 1835.

This is a new edition of a chart, published some time since. It includes Porto Santo and the Desertas, and is an acquisition either to the navigator, or him who would value it for the topographical features it displays of the islands. It should be in the possession of every one resorting either for health or wealth to this "island of vineyards."

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**THE RIGHT HON. LORD YARBOROUGH'S YACHT, THE FALCON,** of 351 tons, off Spithead, with the Royal Yacht Squadron on their Voyage to Cherbourg. W. J. Huggins.

This is decidedly one of the best productions that we have seen among the aquatint drawings of Mr. Huggins. The original painting was a good picture, and it has been transferred very happily to paper. The yachts are well grouped, and the busy appearance of a fleet of vessels sailing in different directions is well preserved. The Falcon, the pride of the squadron, is represented as standing out under easy sail, with flowing sheets, having just loosed her top-gallant sails; a brig on her larboard bow has thrown her maintop sail to the mast, that she may not cross the commodore's hawse. We wish the leadsmen in the Falcon's chains had laid his lead and line in while the artist was at work but we are content to pronounce the whole piece as one of Mr. Huggins' happiest productions.

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**THE CAPTURE OF THE GIPSY SCHOONER of New York,** on the 30th of April, 1812, by H. M. Ships *Hermes* and *Belle Poule*. W. J. Huggins.

A spirited little aquatint, in which the Gipsy, after an obstinate chase of three days, is represented striking her colours to her powerful adversaries.



Commander Belcher, with Lieut. Jones and Mr. Cudlip, mate, we understand, are appointed to survey St. George's Channel. A thorough investigation of the soundings of this boisterous sea has never yet been attempted, and we have no doubt that those results will be obtained which will enable navigators to trust with confidence to their lead, and that the general feature of the bottom of the channel will be altogether different from that laid down in the charts. This gives us an opportunity of alluding to the operations of Captain Hewett, of H.M.S. *Fairy*, in the North Sea, on a service of a similar nature. We have inspected Captain Hewett's chart, and consider it not only as providing invaluable information for future navigators in the North Sea, but as one of the most interesting pieces of work that we have ever seen. Hitherto we may be said to have known little of this sea—even in the very best charts extant, shoals are laid down that have no existence, and banks are not to be found that do exist, and those too of a dangerous kind. It is most interesting to trace the extraordinary sands in this sea, as they have been discovered by Captain Hewett's laborious and difficult occupation, but he has the satisfaction of knowing, that his is the kind of information which is most wanted by seamen, when no observation is to be had, and the dead-reckoning not to be depended on.

Lieutenants Wolfe and Beechey have been appointed to survey Loch Erne, in Ireland.

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**REGISTRATION OF SEAMEN.**—Sir James Graham has brought forward his bill for the registration of seamen, and a plan for manning the royal navy without resorting to impressment. We quite approve of the spirit in which the worthy baronet has set to work, and will give some of the particulars of it in our next.

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A Court Martial took place at Jamaica, on the 21st January, and lasted only four hours, for the trial of Lieut. Bolton, for the loss of the *Nimble* schooner. She got on shore on the coast of Cuba, having 200 slaves on board; she was running through a passage not well surveyed, when she got on shore, and very shortly after she went to pieces, and about 60 slaves were drowned. Lieut. Bolton was acquitted. It is expected this gallant and persevering officer will soon get his promotion for his successful efforts in suppressing the iniquitous slave-trade.—*Plymouth Paper*.

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#### MR. CUBITT'S REPORT ON PORT WILLIAM.

"To W. Hedger, Esq.

16, Parliament-street, London.

January 31st, 1835.

SIR—In conformity with Instructions contained in yours of the 8th ult. I proceeded to Redcar on the 8th inst. in order to examine and report relative to the formation of the proposed asylum harbour of Port William, viz.,

1st. "As to whether the locality is or is not favourable for an asylum harbour with a view to the preservation of ships and their cargoes navigating the eastern coast of England."

2nd. "As to its practicability and probable cost, and,

3dly "Whether the proposed harbour (viewed solely with regard to the preservation of ships and their cargoes and its general utility) is commensurate in value with its probable cost and maintenance."



"Having devoted several days to an inspection of the site of the proposed harbour and its neighbourhood, and taken such observations and soundings as appeared to me necessary, and examined and compared the same with the plans and statements previously published on the subject by Mr. W. A. Brooks, civil engineer, (who originally planned and projected the proposed harbour,) from whom I received much valuable information and assistance on the spot, I now take the earliest opportunity after my return, to hand you the following observations and remarks, as my report upon the subject to the committee for the promotion of the intended harbour.

"I am, Sir, your obedient servant,  
"W. CUBITT."

**PORT WILLIAM.**—A Report on the proposed Plan for the formation of an Asylum Harbour at Redcar. By W. Cubitt, Civil Engineer.

The object of this report is to examine as to the expediency, practicability, and expense of forming an asylum harbour at Redcar on the north-east coast of Yorkshire, at the bottom of Tees Bay on the south side of the entrance of the river Tees, according to the plans and reports of Mr. W. A. Brooks, civil engineer, with whom the project originated.

Before going into the above points, to which my attention has been more particularly called, it is in the first place but justice to Mr. Brooks to state, for the information of such persons as may have read his report of December, 1832, and examined the plan thereto annexed, that the statements and information therein contained are correct, and by no means overstated, as I had the means of proving by personal inspection, and taking soundings at low water of a spring tide, along and across the proposed harbour in various directions, which agree precisely with those given by Mr. Brooks in his chart or plan of the rocks and harbour. And in the next place, to such as may not have had the advantage of studying Mr. Brooks' Plans, the following brief description may make the subsequent part of this report more easy to be understood.

The north-east coast of England is a very dangerous coast for shipping in easterly gales of wind, particularly that part of it comprised between the Firth of Forth and the river Humber, within which space there are no harbours to which vessels could run and take shelter at the time of low water, or in the night, and the most dangerous part is in the Tees Bay, or its neighbourhood, for from its being deeply indented in the line of coast, vessels when caught there with storms in almost any point from N. N. E. to E. S. E. are almost sure to be driven on shore somewhere between Hartlepool and Huntley Foot, and most frequently become wrecked on the "Salt Scars."

The "Salt Scars," together with the "West Scars" and the "East Scars," form a most dangerous reef of rocks (well known to mariners,) lying on the south side of Tees Bay, near the entrance to the river Tees; these rocks extend along the shore for about two miles in detached portions from the east end of the village of Coatham to the westward of the town of Redcar, with a fine clear beach within and between them, and extend out in an easterly direction to a distance of about two miles from the coast, in two distinct ledges or reefs, their tops appearing above low water for more than a mile from the shore, and enclosing a space between them of from two to three thousand feet in width, and from 12 to 36 feet in depth at low water, with a bottom of stiff blue clay; The opening from between these rocks seaward is perfectly clear, and deepens suddenly into 10 fathoms water, increasing outwards. The rocks are all covered at half flood; and it is this circumstance, combined with their extent and distance into the sea which renders them so particularly dangerous.

To the southward of these rocks is a fine clear sand-beach extending for up-



wards of three miles along the shore towards Huntcliffe Point, and to the northward and eastward are Tees Bay, and the southern shore of the estuary of the river Tees.

Now it is in the very midst of these rocks, the present dread of mariners, and of all things by them to be shunned as they would shun destruction, that Mr. Brooks proposes to form an asylum harbour, to which, in the darkest nights, and the most destructive storms which rage on the coast, the seamen would steer with confidence, sure of a safe entrance, smooth water, and good holding ground at all times of the tide, and that in a situation of all others on the coast where it is most needed.

The mode by which this is to be effected is of the simplest kind possible, viz. by forming rubblestone piers upon the reefs of rocks, so as to bring them to a sufficient height above high-water, and closing up at the outer end, part of the space between the two rocks with a cross pier, leaving a proper opening for the entrance; by this means a most excellent harbour of about 500 acres will be formed, as will be more particularly seen by referring to Mr. Brooks' plan, in which the coast, the rocks, the proposed harbour, and the high and low water soundings, both inside and out, are most accurately laid down, as I had the means of proving by examining and sounding on the spot, nor did I find any part, either of the description or plans published by Mr. Brooks, in the smallest degree exaggerated.

Adverting again to my instructions (a copy of which I have inserted in the appendix hereto) I shall now proceed to state my opinion on the three principal points therein contained.

"1st. As to whether the locality is or is not favourable for an asylum harbour, with a view to the preservation of ships and their cargoes navigating the eastern coast of England."

The solution of this question involves considerations both of a nautical and engineering kind; and without presuming too much on the former branch of knowledge, on which naval and nautical men are so much better qualified to speak, I venture an opinion that the locality is favourable for an asylum harbour inasmuch as the situation proposed is the most dangerous spot, the most to leeward in a deep bay, where vessels caught with adverse winds find it extremely difficult, if not impossible, to work out, and across which bay probably a larger amount of tonnage passes than along a similar extent of coast in any part of the kingdom.

In an engineering point of view, I have no hesitation in stating that the locality is exceedingly favourable for the preservation of shipping, their cargoes, and, what is of more importance, the *lives of their crews*, inasmuch as a harbour there formed will be very large, accessible at all times of tide, and with good holding-ground for vessels to anchor in: in point of size, it will be 500 acres in extent, or double that of Kingstown harbour near Dublin, which is, I believe, at present the finest artificial harbour in existence: in respect to depth of water, it will have 30 feet at low water at its entrance, and carry that depth inwards for nearly three-quarters of a mile, and then begin to shoal gradually to the beach at the head of the harbour, which beach extends for a great distance to the southward of the harbour, and is exceedingly favourable for such vessels to take the ground, as, from loss of anchors, rudder, or steerage-way, cannot make the harbour's entrance, but, guided by its lights, would run for the beach in the best place with confidence, or, if they had ground to tackle, they might bring up under the lee of the harbour itself in from 3 to 5 fathoms water, as the proposed entrance to the harbour is a full mile distant seaward from the nearest point of the beach at low water, as will be seen on reference to Mr. Brook's chart of the coast and plan of the proposed harbour; and the consideration of



all which leaves no doubt in my mind, that the locality is "favourable for an asylum harbour, with a view to the preservation of ships and their cargoes navigating the eastern coast of England."

2ndly. "As to its practicability and probable cost.

As regards practicability, it would doubtless be practicable to construct a harbour in almost any situation, if means were obtainable for the purpose, and this question would therefore become one of expediency, as to whether it be practicable to construct a harbour possessing very great advantages, for so small a sum of money as would render it advisable to set about it.

Now the easiest way to make this fully understood appears to me to be by drawing a comparison with some known work of a similar kind, and I take the royal harbour of Kingstown as a case in point.

I deem Kingstown harbour to be the largest, the best executed, the most useful, and the cheapest artificial harbour in the British dominions; at all events, the best and cheapest in proportion to its size, utility, and the quantity of materials composing it, that I have ever seen: and if it can be shewn that an asylum harbour twice as large in extent, with a greater depth of water, of probably even greater utility, can be constructed at about half the expense, I think the case for Port William will be fairly made out, and its practicability and cost fully proved.

Kingstown harbour is formed of breakwaters or piers of rubble stone carried out in the sea, and brought up from the bottom to a sufficient height above high water, with proper slope each way, thus enclosing a harbour from the sea of sufficient extent to answer its intended purpose; the materials are of granite rock from quarries two or three miles inland at the back of the harbour, from which the stone is brought down on railways, and pitched into the sea till their piers are formed of sufficient length and height.

The same mode exactly is proposed to be adopted in the formation of Port William from the extensive quarries of free-stone which lie just at the back of the proposed harbour, and with this great advantage in favour of the proposed plan, viz. that the greatest portions of the piers or breakwaters are already formed by nature, in the existence of two reefs of rocks which run out in the best direction for the piers of the intended harbour, and appearing above low water for upwards of a mile into the sea, thus forming piers almost ready made by nature, and which only want raising upon, and extending towards each other at their outer ends, for the purpose of an entrance, to form one of the largest and best artificial harbours that can well be conceived.

The total quantity of stone used in the piers of Kingstown harbour is about 500,000 tons, and its total cost about £500,000, including every expense, which will give 2s. for each ton of granite in place for the formation of the harbour, and taking the difference of expense in the quarrying and working of granite and sandstone, and the greater quantity of space taken up with the same weight of the latter, I have no doubt that 1s. 6d. per ton would form the same extent or bulk of breakwater at Port William as 2s. per ton has done of granite at Kingstown harbour.

The quantity of stone necessary to form the piers of the harbour of Port William to the extent laid down in Mr. Brooks' plan, would, according to my estimation be 3,000,000 tons, and this at 1s. 6d. per ton would amount to £225,000 only, and even assuming that the cost of preparation, execution of and finishing up the piers amounted to as much in the one case as the other, the cost would then amount to no more than £300,000 for a harbour possessing all the advantages of size, &c. as above stated.

I am therefore of opinion that this work is easily practicable, and at a cost certainly not exceeding 300, and probably not exceeding 250 thousand pounds.



3dly. "Whether the proposed harbour (viewed solely with regard to the preservation of ships and their cargoes, and its general utility) is commensurate in value with its probable cost and maintenance."

This is a question which I do not feel myself as an engineer competent to answer, inasmuch as it involves considerations with which I am not fully acquainted: the probable cost of the harbour I have stated as above, and, if once well constructed, its maintenance would be little, principally consisting of management, lights, &c. amounting in the whole, probably, to not more than £200 or £300 per annum, or even if it were a greater sum, there is no doubt that the trade which would arise in the neighbourhood immediately on the construction of a harbour, would amply pay its current expenses. As regards defraying the cost, that is a question which in my judgment concerns the public, and should be treated on public grounds; the consideration being, whether by the construction of a safe and easily accessible harbour on the most dangerous part of the coast sufficient property and life would be saved to warrant the expenditure of such sum of money as would effect the desired object, or whether such a slight tonnage could be put upon all loaded vessels passing the harbour as would in a given number of years repay the principal with interest of the money expended, and after that time leave the harbour free—all which are most important considerations for the committee promoting so useful and important a measure.

Hitherto I have only mentioned this as an asylum harbour for the use and security of all vessels navigating the north-eastern coast of England; but it may be proper also to state, that the situation possesses qualities of a very superior order for the use and accommodation of a naval as well as a mercantile "marine," as is clearly pointed out in Mr. Brooks' report and letters on the subject.

In conclusion, therefore, I have only to state, that in my opinion, after a very careful view and consideration of the subject, the locality is very favourable for an asylum harbour, that its construction is easily practicable, that its probable cost would not amount to £300,000, and that in my judgment the same might be carried into effect upon such a plan of finance, as, without injury to the shipping interest, would be beneficial to the public at large, be the means of saving many valuable lives, and in time become a free harbour, rendering comparatively safe to navigate, by night or day, a part of the coast which is at present the dread of mariners.

W. CUBITT.

To the Committee for the Formation  
of the Harbour of Port William.

London, January 31st, 1835.

#### APPENDIX.—Copy of Instructions.

28, Old Bond-street, 8th Dec. 1834.

Sir—Agreeably to the terms of your letter of the 5th, you will have the goodness to proceed to Redcar, and make such observations and surveys as will enable you to report to the committee of management for the formation of Port William as to the eligibility, practicability, and expense of the harbour projected by Mr. W. A. Brooks, C. E. for which purpose I beg particularly to call your attention,

1st. As to whether the locality is or is not favourable for an Asylum Harbour with a view to the preservation of ships and their cargoes navigating the eastern coast of England.

2dly. As to the practicability and probable cost; and,



3dly. Whether the proposed harbour (viewed solely with regard to the preservation of ships and their cargoes and its general utility) is commensurate in value with its probable cost and maintenance.

I am, Sir, your obedient servant,

W. Cubitt. Esq. C. E.

(Signed) W. HEDGER. Sec.

[In the pages of the Nautical Magazine, we were the first to advocate this measure proposed by Mr. Brooks, from a conviction alone that it would prove a benefit to the country at large. We are still of the same opinion. And it is with pleasure we refer our readers to the foregoing report of that celebrated engineer, Mr. Cubitt, who, we are happy to find, not only agrees entirely with us, but confirms fully all that Mr. Brooks has advanced on the subject. ED.]

#### THE MAGICIENNE.

*To the Editor of the Nautical Magazine.*

SIR.—As the *Magicienne* has just returned from foreign service for paying off, I think it but justice to a deserving individual to request your insertion of the following extract of a letter concerning her good qualities. Yours, truly,

JUSTITIA.

"I have been on board of the *Magicienne*, and find that her inclination is usually about  $10^{\circ}$  under single-reefed topsails, and top-gallant sails close hauled, going 9.6 knots. She has gone  $6\frac{1}{2}$  on a wind with sky-sails, and all reefs out. She is a particularly *easy* ship in bad weather, but very wet on a wind, throwing a great deal of spray over abaft her fore-rigging: she never plunges so deep, or buries the head, and unshipping the lee-bumkin, as I frequently saw one of the 36-gun frigates do, built from the same draught, and not razeed. This, of course, is owing to her lesser draught and greater buoyancy. She does not show any symptoms of being strained by the weight of her metal, (32 pounders,) or the length of her masts; and I observe that her maintop-mast, jib-boom, gaff, and the three top-gallant masts are puny spars, and very considerably heavier than fir: her maintop-gallant mast is in toto 60 feet, which is 16 feet more than a 46-gun frigate's. A good proof of her being tolerably easy is, that none of her channels or chain-plates have given way. To conclude my observations of the superiority razeed corvettes have over their class as frigates, I must remind you that the *Magicienne* draws 18 inches less water, carries her guns that much higher, stows her boats and booms a deck lower, has one hundred tons of top weight of timber taken off, besides the quarter-deck and fore-castle guns, has six feet more drop to her courses, jibs, and spanker, has top-gallant sails and trysails enlarged, and, notwithstanding she has more stability, therefore, with less displacement and less top-hamper, and more canvass, must she not sail faster? She has beaten every thing in this country that she has met with, and made some extraordinary passages. With regard to other advantages, I observe that her lower deck allows more room for her men, and more air and light by the introduction of the much-admired circular tube-scuttles, invented by Mr. Lang, she can stow five months' bread, and six of every other provision; she has a thorough ventilation fore and aft on her orlop deck, and room there for midshipmen's chests, with wings quite clear. Her armament is excellent, and her decks have stood the weight of the guns remarkably well. Her officers speak of her in the highest terms, yet I do not think that they over-rate her powers, for she really is a very splendid craft, and Mr. Lang, the master shipwright of Woolwich yard, who projected the plan for cutting her down, deserves the greatest credit."—*Bombay, May 1st, 1834.*



## Nabal Register.

COMMISSIONERS for executing the Office of LORD HIGH ADMIRAL of the United Kingdom of Great Britain and Ireland.

The Right Honourable Thomas-Philip-Weddell Robinson, Earl De Grey.  
 The Right Honourable Sir George Cockburn, G.C.B., *Vice-Admiral of the Red, and Major-General of Marines.*  
 Sir John Poo Beresford, Bart., K.C.B., *Vice-Admiral of the White.*  
 Sir Charles Rowley, K.C.B., *Vice-Admiral of the White.*  
 The Right Honourable Anthony Viscount Ashley.  
 The Right Honourable Maurice Fitzgerald.

*First Secretary*—The Right Hon. George-Robert Dawson.

*Second Secretary*—Sir John Barrow, Bart., L.L.D., F.R.S.

*Hydrographer*—Captain F. Beaufort, R.N., F.R.S.

THE ROYAL NAVY IN COMMISSION—FEBRUARY 21st, 1834.

C Date of Commissioning.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B. *Appointed* 23d Jan. 1833. *Flag-Lieut.*  
 T. B. Eden; *Secretary*, Thomas Williams.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H. *Appointed* 27th April, 1833.  
*Flag-Lieut.* C. H. M. Buckle; *Secretary*, J. Loudon.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming. *Appointed* 16th Aug. 1834. *Flag-Lieut.*  
 Granville G. Loch; *Secretary*, B. Chimmo.—*Flag-Ship*, OCEAN, 80.

ASTREA—Captain A. King, foreign packets, Falmouth.

CAMELEON, 10—Lieut. Com. J. Bradley, Portsmouth station.

DUBLIN, 50—Capt. C. Hope, Plymouth, fitting, said for the flag of the Commander-in-Chief on the South American station, instead of the Spartiate.

EXCELLENT, late BOYNE—Captain T. Hastings, Portsmouth, for the practice of naval gunnery.

PORTSMOUTH, *Yacht*—Lieut. Com. J. Maitland, Portsmouth.

OCEAN, 80—Captain A. Ellice; Sheerness.

PIKE, 12—Lieut. Com. A. Brooking, Plymouth, fitting.

PRINCE REGENT *Yacht*—Captain G. Tobin, C.B., Deptford.

ROLLA, 10—Lieut. Com. F. H. H. Glasse, 4th Feb. moved out of the basin at Sheerness.

ROYAL GEORGE *Yacht*—Capt. Right Hon. Lord A. Fitzclarence, G. C. H., Portsmouth.

ROYAL SOVEREIGN *Yacht*—Capt. C. Bullen, C.B., Pembroke.

ROYALIST—Lieutenant C. A. Barlow, Plymouth, fitting.

SAN JOSEF, 110—Capt. G. T. Falcon, Hamoaze.

SEAFLOWER, *Cutter*, 4—Lieut. Com. J. Morgan, 12th February sailed for Jersey.

SPEEDY, *Cutter*—Lieut. C. H. Norrington, Portsmouth station.

VICTOR, 18—Com. R. Crozier.

VICTORY, 104—Captain R. Williams, Portsmouth.

WATERWITCH, 10—Lieut. Com. J. Adams, Portsmouth, undergoing extensive alterations and repairs.

WILLIAM AND MARY, *Yacht*—Capt. S. Warren, C.B., Woolwich.



## Abroad.

## LISBON STATION.

Rear-Admiral, W. H. Gage. *Appointed* 9th April, 1834. *Flag-Lieut.* James L. Parkin; *Secretary*, John Irving.—*Flag-Ship*, HASTINGS, 74.

CASTOR, 36—C May '32, Capt. Rt. Hon. Lord John Hay, 26th Oct. in the Tagus.

HASTINGS, 74—C April '34, Captain H. Shiffner, in the Tagus 1st Feb.

LEVERET—C Dec. '31, Lieut. Com. G. Traill, 14th Feb. arr. at St. Michael's.

NIMROD, 20—C April '32, Com. R. Fair, 6th Feb. arrived at Lisbon.

PRQUE, 36—Captain the Hon. H. J. Rous, 2d Feb. sailed from Plymouth for Lisbon. Expected to return to Spithead.

RINGDOVE, 16—C Nov. '33, Com. W. F. Lapidge, 4th Jan. at Santander.

ROYALIST, 10—Lieut. Com. Barlow, 15th March sailed for north coast of Spain.

SARACEN, 10—C Nov. '33, Lieut. Com. T. P. Le Hardy, 5th June arrived at Lisbon from Cadiz.

STAG, 46—C April '31, Captain N. Lockyer, C.B., 13th Jan. at Cadiz from Lisbon; 1st Feb. in the Tagus.

## MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B. *Appointed* 18th Dec. 1833. *Flag-Lieut.* H. B. Young; *Secretary*, T. Triphook.—*Flag-Ship*, CALEDONIA, 120.

BRITANNIA, 120—C Aug. '31, Capt. P. Rainier, 31st Jan. arrived at Spithead; 4th Feb. moved into harbour.

CALEDONIA, 120—C May '33, Capt. T. Brown, 31st Jan. at Malta, 7th Feb. to sail.

CANOPUS, 84—C Nov. '33, Hon. J. Percy, 31st Jan. at Malta, 7th Feb. to sail.

CARRON, St.V.—C Oct. '32, Lieut. Com. J. S. Duffil. See Steam Vessels.

CEYLON, 2—C Feb. '34, Lieut. J. G. M'Kenzie, Malta.

CHILDERS, 16—C May '34, Com. G. Fair, 27th Dec. left Malta for Vourla, 11th Jan. at Malta from Vourla, 7th Feb. to sail.

COLUMBINE, 18—C June '34, Com. T. Henderson, 31st Jan. at Malta, 3d Feb. sailed with sealed orders, supposed for Dardanelles.

"*Narrow Escape*.—George Magrath, a boy on board the Columbine, whilst sculling a boat on shore in Malta Harbour, fell overboard, but was rescued from a watery grave by the humane conduct of the first Lieutenant, Mr. Joseph Batt, who, with great promptitude, threw off his jacket, and fearlessly plunging himself into the sea, succeeded, by the most strenuous efforts, in saving the drowning lad."

EDINBURGH, 74—C Oct. '33, Captain James R. Dacres, 31st Jan. at Malta, 7th Feb. to sail.

ENDYMION, 50—C June '33, Captain Sir Samuel Roberts, C.B., 31st Jan. at Malta, 7th Feb. to sail.

FAVORITE, 18—C Aug. '33, Com. G. R. Mundy, 7th Feb. at Tripoli.

JASEUR, 18—C Nov. '33, Com. J. Hackett, 7th Feb. at Gibraltar.

MALABAR, 74—C July '34, Captain Sir W. A. Montagu, K.C.H., 31st Jan. at Malta, 7th Feb. to sail

MEDEA, 6—C Jan. '34, Com. H. T. Austen, 31st Jan. at Malta.

ORESTES, 18—C June '34, Com. H. J. Codrington, Nov. on the coast of Spain.

PORTLAND, 52—C May '34, Captain D. Price, 7th Feb. at Salamis.

REVENGE, 78—C March '34, Capt. W. Elliott, C.B., 31st Jan. at Malta, 7th Feb. to sail.

SCOUT, 18—C July '32, Com. W. Holt, 31st Jan. at Malta.

TALavera, 74—C March '31, Captain E. Chetham, C.B., 18th Dec. left Vourla for England; 20th Jan. arrived at Plymouth, 23d moved into Hamoaze.

THUNDERER, 84—C Oct. '33, Capt. W. F. Wise, C.B., 31st Jan. at Malta, 7th to sail.

TRIBUNE, 24—C May '34, Captain J. Tomkinson, Jan. at Smyrna, 3d Feb. arrived at Malta with despatches from Lord Ponsonby, 7th Feb. to sail.

TYNE, 28—C Jan. '34, Capt. Right Hon. H. J. C. Viscount Ingestrie, C.B., 31st Jan. at Corfu, 7th Feb. to sail.

VERNON, 50—C Aug. '31, Captain M'Kerlie, 31st Jan. at Malta, 7th Feb. to sail.

VOLAGE, 28—C April '33, Capt. G. B. Martin, C.B., Jan. at Constantinople, 7th Feb.



## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B. *Appointed* 30th May, 1834. *Flag-Lieut.* James Maitland; *Secretary*, J. B. Hutchings.—*Flag-Ship*, THALIA, 46.

BRISK, 3—C Sept. '31, Lieut. Com. J. Thompson, Sept. on the Gold Coast.

BRITOMART, 10—C March '33, Lieut.

W. H. Quin, 12th Oct. sailed for Goree.

BUZZARD, 10—C June '34, Lieut.

Com. N. M'Namara, 12th Oct. sailed for Cape of Good Hope.

CHARYBDIS, 3—C Jan. '34, Lt. Com. S. Mercer, 12th Oct. at Sierra Leone.

CURLEW—C Jan. '35, Lieut. Com.

Hon. J. Denman, 10th Feb. arrived at Madeira, 12th sailed for Africa.

FAIR ROSAMOND, *Schooner*—C May '33, Lieut. Com. G. Rose, Bight of Benin.

FORESTER—C Sept. '33, Lieut. G. G. Miall, Sept. on the Gold Coast.

GRIFFON, 3—C Oct. '32, Lieut. J. E. Parby, September and October at Ascension.

LYNX, 10—C Sept. '33, Lieut. Com. H. V. Huntley, Oct. at Ascension.

PELICAN—C Jan. '35, Com. B. Popham, 16th March left Portsmouth for African station.

PELORUS, 18—C Sept. '31, Com. R. Meredith, 8th Nov. at Sierra Leone.

THALIA, 46—C May '34, Capt. R. Wauchope, 25th Dec. at Ascension; sailed 29th for the Cape.

TRINCULO, 18—C May '32, Com. J. R. Booth, 30th Dec. at the Cape of Good Hope; 8th Jan. sailed for Algoa Bay.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Appointed* 30th May, 1834. *Flag-Lieut.* Hon. J. R. Drummond; *Secretary*, — *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—C June '34, Lieut. Com. G. Stovin, 26th Nov. arrived at Cape of Good Hope.

ALLIGATOR, 28—C Sept. '31, Capt. G. R. Lambert, 31st August sailed from Sydney for New Zealand; 15th Dec. expected at Madras, being relieved by the Hyacinth.

ANDROMACHE, 28—C Sept. '33, Capt. H. D. Chads, C.B., Sept. at Canton. At half-past twelve on the 7th of Sept. his Majesty's ships Imogene and Andromache, under the command of Capt. Blackwood, got under weigh to proceed through the Bogue. A stir was immediately perceived among the war junks in Anson's Bay, and the Chunpee and Taykoktay Forts. All of them at first commenced firing blank cartridge, and the two forts followed it up immediately with shot, which, from the distance, fell far short and astern of his Majesty's ships. The junks, about a dozen in number, got as far as they could into the shoaly recesses of Anson's Bay. As his Majesty's ships neared and got within range of the Bogue forts, the wind suddenly shifted to the north, the Imogene standing towards Wangtong Fort on one tack, and the Andromache towards Anunghoy on the

other. The Imogene waited until Wangtong had fired several shots, when the last one, having nearly reached her, was answered by two; another was answered by two more in quick succession; the Andromache in the mean while returning the fire of the Anunghoy battery with several well-aimed shot, some of which plunged into the parapet with prodigious effect, and raised clouds of dust, while others passed clean through the embrasures. The British fire, while it lasted, silenced the forts, but as it soon appeared that any pause on the part of the ships produced a renewal from the batteries, it became necessary to discontinue the order to "cease firing on the main deck." The action was most brisk on getting into the middle of the channel; but the Chinese fired like men in a panic, aiming very wild, or rather letting fly as the ships arrived nearly at the line of fire for each gun as it was laid. There could not have been much reloading or training of the guns after the first discharge. The only tolerable firing was on the part of Wangtong Fort, on the island, from which the Imogene received several shots, one of them coming through the side of the quarter-deck,



knocking down and slightly bruising a seaman with the splinters, and grazing the fore part of the mainmast; a great many more passed between the hammocks and the awning; and the interest which one new to this system of argumentation, took in such a splendid sight, on a fine day (which it was,) now and then received a rude interruption by the whistling of a shot close to the head. The whole of the slow-working passage occupied nearly an hour and three quarters, during which the frequent tacks so often exposed his Majesty's ships to be raked by the batteries, that the little or no damage experienced from the enemy sufficiently demonstrates their want of steadiness and skill. They ought to have sunk both ships. The round stern armaments proved extremely useful. The perfect indifference with which the *Louisa* cutter was manœuvred through the passage by Capt. Elliott sitting upon deck under an umbrella, must have provoked the spleen of the Chinese, for several of their shot struck her, one of them cutting nearly a third through the mast, and another injuring the gun-whale of the jolly-boat. The Lascars behaved extremely well on this occasion, the cutter being on some tacks nearly as much exposed to the fire of her friends as of the forts. Soon after having effected the passage and hampered the batteries to their perfect satisfaction, the wind obliged his Majesty's ships to anchor below Tiger Island.—Perpetual calms or baffling airs kept them at anchor here until the afternoon of the 9th, when they weighed anchor to pass Tiger Island. In the interim the Chinese were observed very busy in adding to their means of annoyance; a number of boats bringing additional supplies of arms and men, and a parade of some hundred matchlock men took place on the rampart. As the ships got under weigh with a fair breeze, the larboard guns were duly trained and prepared. The battery reserved its fire longer than was expected, but the moment the first shot had passed the ships' bows, a most tremendous and well-directed cannonade was opened from them. The ship steered close under the fort, not more than 200 yards from it, the parapet

overlooking them. The crews gave a loud cheer just as they got in front of the battery, and the effect was evident in slackening the enemy's fire. Some grape-shot of a rude cast reached the ships in a spent state, which was answered with grape and canister, and the musquetry of the marines and top men. One of their shot killed the captain of the *Imogene's* fore-castle, and three more were wounded, but not severely. The *Andromache* had a seaman killed on the main-deck, and three wounded. So many thirty-two pounders entered the embrasures, or shattered the stone parapet, that the Chinese loss must have been considerable. A *Jos-house* within the fort was a heap of ruins. This battery got very severely punished, more business having been done in a shorter time than on the former occasion. The ships then anchored below second bar—from want of wind. 21st of November arrived at Madras from Canton.

*CURAÇOA*, 26—*C* April '31, Capt. D. Dunn, ordered home. 15th Dec. at Calcutta, waiting to bring home the governor-gen. Lord W. C. Bentinck, expected to embark on the 17th March.

*HARRIER*, 18—*C* Nov. '31, Com. S. L. H. Vassal, 22d Nov. left Trincomalee for Colombo.

*HYACINTH*, 18—*C* Feb. '33, Com. F. P. Blackwood, 30th Sept. left Madras for New South Wales.

*IMOGENE*, 18—*C* July '31, Captain P. Blackwood, 15th Dec. expected at Madras from China.

*MAGICIENNE*, 24—Capt. J. H. Plummeridge, 18th October left Bombay for Colombo: arrived at Portsmouth, on the 10th of March, with dispatches from China and India: she was only eighty-five days on her passage, fourteen of which she was becalmed, but having run from the Mauritius at a daily average of 184 miles, she has made a very quick voyage (the quickest ever known, considering her having been becalmed.) She left Madras on the 15th December; the Mauritius (where she remained only a few hours) January 10th; hove to off St. Helena for seven hours on the 2d February; and sighted Pico and Fayal on the 1st March. She experienced a very heavy sea off the Cape, where she behaved



admirably well, not straining or carrying away either mast or rigging, though top-gallant-masts were fiddled.

The *Magicienne* has been absent from England about three years and a half, in which period she has been 586 days under way and has sailed seventy-four thousand miles. On her passage home, she sailed two thousand and seventeen miles in eight days, averaging two hundred and fifty-two miles a day. She was only twenty-two days from the Mauritius to St. Helena, two hundred miles a day. She has beaten every vessel she has met with, to the astonishment of every one who has witnessed the fact, and has been much admired as a most splendid corvette at every port where she has made her appearance. This not only reflects great credit on her gallant captain and officers, but to Mr. Lang, the master-shipwright of Woolwich Yard, who proposed the mode for reducing her from a frigate to a corvette, and carried his proposition into execution by the permission of the Admiralty, having cut her down, and

fitted her for sea at Woolwich under his own superintendence.

MELVILLE, 74—*C* Sept. '31, Vice-Admiral Sir John Gore, K.C.B. Captain H. Hart, 18th Dec. at Dochin, on her way to Bombay, to meet the *Winchester*. Lord Clare returns to England in the *Melville*.

RALEIGH, 16—*C* July '34, Com. M. Quin, 16th Dec. arrived at the Cape.

ROSE, 18—*C* June '34, Com. W. Barrow, 3d Nov. arrived at the Cape; 8th sailed for Bombay.

VICTOR, 18—Com. R. Crozier, 16th March left Cowes Roads for the East Indies.

WINCHESTER, 52—*C* June '34, Capt. E. Sparshott, K. H., 8th Jan. sailed from the Cape in company with the *Trinculo*.

WOLF, 18—*C* May '34, Com. E. Stanley, 30th Dec. at the Cape of Good Hope, arrived 16th; 4th Jan. sailed for India.

ZEBRA, 16—*C* June '34, Com. R. C. M'Crea, 27th Nov. arrived at the Cape.

#### NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Appointed* 6th Dec. 1832. *Flag-Lieut.* H. W. Willes; *Secretary*, T. Woodham.  
*Flag-Ship*, *PRESIDENT*, 52.

ARACHNE, 18—*C* July '31, Com. J. Burney. She sailed from New York on the 12th Dec. with Capt. Kitson, Royal Engineers, he having successfully entered into contracts with persons there for erecting the Light-houses on Bahama Island. Expected home.

BELVIDERA, 42—*C* Dec. '33, Capt. C. B. Strong, 8th Jan. arrived: at Barbadoes 21st January.

CHAMPION, 18—*C* June '32, Commander Hon. A. Duncombe, 17th January sailed for West Indies.

COLUMBIA, St.V.—*C* Aug. '34, Mast. Com. James Henderson, 12th Jan. arrived at Jamaica from Falmouth.

COMUS, 18—*C* Oct. '32, Com. W. P. Hamilton, 6th Jan. arrived at Antigua.

CRUIZER, 18—*C* Aug. '33, Com. James M'Causland, arrived at Havana on the 13th Jan. with a prize schooner, having on board 340 slaves. Four vessels from Africa had arrived there in 12 days previous, having landed their  
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cargoes, consisting of 2,300 human beings, on the coast, who were trotted up to the city.—*New York Paper*.

DEE, St.V. 4—Com. W. Ramsay, 8th Jan. left Barbadoes for St. Vincent; 20th Jan. sailed for Jamaica.

DISPATCH, 18—*C* June '32, Com. G. Daniell, 14th Dec. arrived at Tobago from Trinidad.

DROMEDARY—*C* July '25, R. Skinner, Bermuda.

FIREFLY, 2—*C* Feb. '31, Lieut. J. M'Donnel, 12th Nov. arrived at Jamaica.

FLAMER, St.V.—*C* Dec. '34, Lieut. Com. C. W. G. Griffin, 22d Feb. arrived at Barbados.

FLY, 10—*C* Sept. '31, Com. P. M'Quhae, 20th Dec. left Port Royal for Port Morant.

FORTE, 44—*C* May '33, Capt. W. O. Pell, 9th Dec. left Port Royal for the north side of the island.

GANNET, 18—*C* March '34, Com. J. B. Maxwell, 21st Oct. at Halifax.



LARNE, 18—C September, '32, Com. W. S. Smith, 25th January arrived at Jamaica.

MAGNIFICENT, 4—C July '30, Lieut. J. Paget, Port Royal.

PICKLE, 5—C March '33, Lieut. Com. A. G. Bulman, September, sent to Halifax.

PINCHER, 5—Tender to flag-ship, 26th Jan. arr. at Jamaica.

PRESIDENT, 52—C Dec. '32, Captain James Scott, 6th Jan. arr. at Trinidad from Barbados; 8th Jan. sailed for Jamaica. 7th Feb. remained.

RACEHORSE, 18—C Jan. '34, Com. Sir E. Home, Bart., 8th January, arr. at Port Royal.

RACER, 16—C July '33, Com. J. Hope, 6th Nov. left Jamaica for Barbados; arr. there 15th, 30th Nov. expected at Port Royal, Jamaica.

RAINBOW, 28—C Feb. '34, Capt. Thos.

Bennet, 8th Jan. arr. at Barbados; 10th sailed for Antigua.

RHADAMANTHUS, St. V.—C Oct. '32, Com. G. Evans, 8th Nov. and 30th Nov. at Port Royal, Jamaica.

SAVAGE, 10—C Nov. '32, Lieut. R. Loney, 8th Jan. left Barbados, 11th arrived at Trinidad, and sailed for Jamaica.

SCYLLA, 18—Com. E. J. Carpenter, 16th March left Spithead for Halifax.

SERPENT, 16—C Oct. '32, Com. M. H. Sweeney, 22d Nov. at St. Lucie.

SKIPJACK, 5—C June '33, Lieut. Com. S. Ussher, (act.) 30th Nov. Port Royal.

VESTAL, 26—C May '33, Capt. W. Jones, 29th Jan. at Port Royal.

WASP, 18—C July '33, Com. J. S. Foreman, 3d Jan. left Barbados for Trinidad; 12th Jan. arr. at Port Royal, Jamaica.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hammond, K.C.B. *Flag-Lieut.* A. S. Hammond; *Secretary*, E. E. Vidal.—*Flag-Ship*, SPARTIATE, 74.

ACTÆON, 28—C Nov. '34, Capt. Lord Edward Russell, 17th March sailed for South America from Cowes Roads.

BLONDE, 46—C Nov. '33, Capt. F. Mason, C.B., 28th Nov. at Valparaiso.

CHALLENGER, 28—C June '33, Capt. M. Seymour, 10th Sept. arr. at Tahiti.

COCKATRICE, 6—C July '32, Lt. Com. W. L. Rees, running between Rio Janeiro and Buenos Ayres.

CONWAY, 25—C Feb. '32, Capt. H. Eden, to leave Valparaiso in Oct. for the northern ports; sailed from Valparaiso 1st Oct. for Lima, Acapulco, San Blas, Mazatlan, & Guaymas. To return home.

HORNET, 6—C July '32, Lieut. Com. F. R. Coghlan, running between Monte Video and Rio Janeiro.

NORTH STAR, 28—C April '34, Capt. O. V. Harcourt, 18th Jan. sailed from Rio for Bahia.

RAPID, 10—C July '33, Lieut. Com. F. Patten, 19th Jan. at Rio Janeiro, to proceed to Falkland Islands.

ROVER, 16—Capt. C. Eden, 15th March left Plymouth for S. America.

SATELLITE, 18—C Sept. '32, Com. R. Smart, ordered home; 7th Aug. sailed for Valparaiso, arrived 4th October; to sail for Callao shortly.

SNAKE, 16—C April '32, Com. W. Robertson, 23d Oct. left Rio for Falkland Islands.

SPARROWHAWK, 18—C Nov. '33, Com. C. Pearson, 25th Nov. at Rio, 5th Nov. returned there from the Falkland Islands.

SPARTIATE, 76—C Oct. '32, Capt. R. Tait, 17th Dec. sailed for Falkland Islands.

TALBOT, 28—C May '34, Capt. F. W. Pennell, 4th Dec. arr. at Rio: Dec. sailed for India, to bring home the Governor-General. Should he have left India by another ship, the Talbot will return to the South American station.

#### TROOP SHIPS.

ATHOL, *Troop Ship*—Master Com. A. Karley, 8th Feb. arrived at Portsmouth from Nassau; sailed 16th Jan.; left Jamaica 20th Dec. with troops. Sailed for Chatham. Passengers,

Mr. Dormer, Master, and Mr. Gain, Purser, of the Rainbow; and Mr. France, Surgeon of the Rhadamanthus.

BUFFALO, *Store Ship*—Master Com. F. W. R. Sadler, Portsmouth, fitting.



**JUPITER**, *Troop Ship*—Capt. A'Court. At Woolwich, fitting.

**ROMNEY**, *Troop Ship*—Master Com. James Wood, 11th Jan. arrived at

Plymouth from Cork and Mediterranean. To be ready for sea on 28th January.

## STEAM VESSELS.

**AFRICAN**—Lieut. J. West, Channel Station.

**ALBAN**—Lieut. Com. J. B. Roepel. The Alban steamer, Lieut. Roepel, arrived on 21st Feb. at Plymouth, and went into harbour to have her defects made good, having had an accident with her engines, and sustained some damage in her hull, in consequence of the severe weather she experienced in the Channel. She is now alongside the Dock-yard, where she will be detained about ten days, and will then proceed to Malta. The Alban was in company with the George Canning, bound to the Euphrates, with two iron steam-boats on board.

**BLAZER**—Lieut. Com. J. Pearse, 14th Feb. arrived at Plymouth.

**COLUMBIA**—See West Indies.

**CARRON**—Woolwich, fitting.

**COMET**—Woolwich, fitting.

**CONFIANCE**, 2—Lieut. Com. J. M.

Waugh, Hamoaze 15th Jan. 18th sailed for Falmouth. See Packets.

**DEE**, 4—See North American Station.

**FIREBRAND**—Mr. J. Allen, fitting at Woolwich.

**FIREFLY**—See Packets.

**FLAMER**, 6—See West India Station.

**LIGHTNING**—Mr. T. Allen, Woolwich.

**MEDEA**, 6—Com. H. T. Austen. See Mediterranean Station.

**MESSENEER**, 1—Com. Mr. J. King, Woolwich, fitting.

**METEOR**—Lieut. Com. J. Duffil, Woolwich.

**PHENIX**—Woolwich. Ordinary.

**PLUTO**—Woolwich, fitting.

**RHADAMANTHUS**—See W. India Station.

**SALAMANDER**—Woolwich. Ordinary.

**SPITFIRE**, 6—Lt. Com. A. Kennedy. See Packets.

**TARTARUS**—Lieut. Com. H. James. See Packets.

## SURVEYING VESSELS ABROAD.

**ÆTNA**, 6—Lieut. Com. W. Arlett, surveying the Canary Islands.

**BEACON**—Com. R. Copeland, surveying in the Archipelago.

**BEAGLE**, 10—Com. R. Fitz-Roy, surveying the coasts of Patagonia and Chili.

**FAIRY**, 10—Com. W. Hewett, Nov. Woolwich.

**GULNARE**, Hired Schooner—Capt. H. W. Bayfield, surveying the Gulf of St. Lawrence.

**INVESTIGATOR**, 16—Mr. G. Thomas, Woolwich.

**JACKDAW**—Lieut. Com. E. Barnett, 20th Dec. at Nassau.

**MASTIFF**, 6—Lieut. Com. T. Graves, surveying in the Archipelago.

**RAVEN**, Cutter—Lieut. H. Kellet, in company with Ætna.

**THUNDER**—Com. R. Owen, 8th Jan. at Jamaica.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts, J. Harding, G. A. Frazer.—Coast of Ireland.

Lieutenants, M. A. Slater; W. L. Sheringham, H. C. Otter.—East Coast of Great Britain.

Lieutenants, H. M. Denham; C. G. Robinson.—West Coast of Great Britain.

## PROMOTIONS AND APPOINTMENTS.

## PROMOTIONS.

**COMMANDERS**—F. Edwin, W. M'Clin-tock, H. M. Denham.

**LIEUTENANTS**—T. Chaloner, F. Scott, C. J. Austen, C. O. Hayes, M. R. Lawless.

## APPOINTMENTS.

**ACTÆON**, 26—1st Mate, W. Clayton; Coll. Vol. H. F. W. Ingram, W. G.

Snard; Clerks, W. Harries, J. Bell.

**ALBAN**, St. V.—Mate, N. V. Cole; Asst. Surg. H. Fossman.



- ALLIGATOR, 28—*Sec. Master*, E. S. Cozens.
- ANDROMACHE, 28—*Lieuts.* R. Gore, G. D. O'Callaghan; *Sec. Lieut. Mar.* G. A. F. Danvers; *Mate*, G. W. Ben-  
tham.
- BLAZER, St.V.—*Lieut.* J. Pearce.
- CALEDONIA, 120—*Lieut.* J. Foote; *Mate*, D. B. Dawes.
- CANOPUS, 84—*Clerk*, T. Turner.
- COAST GUARD—*Com.* J. B. M'Hardy; *Lieuts.* H. L. Williams, H. A. S. Symes, W. Christie, A. Edwards, D. Woodriffe.
- CRUIZER, 16—*Coll. Mate*, H. L. Grif-  
fiths.
- DUBLIN, 50—*Lieuts.* Geo. M'Adam, R. Harris, C. M. Mathison; *2d Lieut.* Mar. R. B. Puddicombe, W. W. Lill-  
icrap; *Chaplain*, G. R. Lewen; *Coll. Vol.* C. M. Christie; *Clerk*, G. H. Maw-  
bray.
- EXCELLENT—*Lieuts.* Harris, W. Carr, J. Williams, A. W. Jerningham; *Mates*, W. Johnson, W. Kendall, W. Scott; *Coll. Vol.* P. D. Hastings, E. Roberts, J. Fellowes.
- GANNET, 16—*Mate*, W. Cashman.
- JACKDAW, *Surv. V.*—*Mate*, C. Ludlow.
- FOX, *Rev. Cutt.*—*Lieut. Com.* F. Hire.
- HASTINGS, 74—*Lieut.* W. Boys.
- HYACINTH, 18—*Mate*, D. P. Duma-  
resq.
- JUPITER, Troop-Ship—*Captain*, E. A'Court; *Com.* Hon. Le Poer Trench; *Lieuts.* G. K. Ogilvy, R. Byron; *Master*, S. G. Northcote; *Surg.* A. Neill; *Purser*, J. L. Jones; *Sec. Lieut. Mar.* B. Varlo; *Sec. Master*, R. Godden; *Asst. Surg.* J. Steill; *Midshipmen*, A. Villiers, J. Stopford; *Clerk*, J. Brown.
- LYRA, Packet—*Master*, (act.) J. Burd-  
wood.
- MELVILLE, 74—*Lieuts.* W. Hill, J. C. Johnson.
- METEOR, St.V.—*Com.* E. Belcher; *Lieut. Jones*; *Mate*, F. A. Cudlip.
- OCEAN, 80—*Clerk*, R. S. Stubbs.
- PELICAN, 16—*Mate*, H. J. Mitford.
- PIGEON, Packet—*Lieut. Com.* W. Luce.
- PICQUE, 36—*Coll. Vol.* H. M. Bu-  
roughs, R. Melom, J. F. B. Wain-  
right.
- RACEHORSE, 18—*Sec. Master*, H. Bateman.
- RAINBOW, 28—*1st Lieut. Mar.* A. An-  
derson.
- RATTLESNAKE, 28—*Surg.* D. King; *Mate*, J. C. Bennet; *Mid.* F. Thomas; *Mate*, J. M. Cooke; *Coll. Vol.* J. L. Palmer, C. Lodder, C. W. M'Gregor, C. Pechell; *Mate*, J. M. Cook; *Clerk*, T. E. Gould; *Vol. 1st Cl.* F. A. Sarties.
- REVENGE, 78—*Asst. Surg.* Oughton.
- ROVER, 18—*Mate*, E. Tatham.
- SAN JOSEF, 110—*Com. Super.* J. Patey; *Capt. Mar.* R. L. Hornbrook; *Assist. Surg.* R. J. Scott, R. L. Jack.
- SCYLLA, 16—*Clerk*, J. J. Winsom.
- SPEEDY, Cutter—*Asst. Surgeon*, J. M'Gowan.
- SWALLOW, Packet—*Asst. Surg.* H. D. Shea.
- THUNDERER, *Surv.*—*Clerk*, A. Hooper.
- TARTARUS, St.V.—*Sec. Master*, A. P. Brickwood.
- VICTORY, 104—*Surg.* G. King, M. D. *Asst. Surgs.* J. Caldwell, R. B. Hind, H. Baker, W. T. Rogers, W. Roy; *Mid.* C. Rainier.
- WATERWITCH—*Master's Assistant*, Forster.
- WINCHESTER, 52—*Lieut.* S. Grenfell.

We were prevented by a pressure of other matter from noticing an event as we could have wished, in our last, and of which our readers are now mostly informed. We allude to the nomination of the worthy second secretary of the Admiralty as a baronet. This mark of royal favour, conferred on Sir John Barrow, by his most gracious Majesty, after a servitude of many years in office, we are quite sure has given general satisfaction throughout that profession which still claims the king as its head.

The America, one of the old 74's, was taken out of the dock recently, having been reduced to a 50-gun ship. She went into dock in March, 1827, and is now one of the finest models in our service. The improvement made in her stern by the Master Shipwright, T. Roberts, esq. excites the admiration of all naval men; and we understand that all ships with round sterns are to be altered upon the same principles.



## FALMOUTH, 20TH MARCH.

## LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
PIKE .....	Lt. Com. A. Brooking..	28 Feb.	_____	_____	28 March.
PANTALON .....	Lt. Com. N. Cory .....	6 Mar.	_____	_____	3 April.
NAUTILUS .....	Lt. Com. W. Crooke ..	14 Mar.	_____	_____	11 April.
SCORPION .....	Lt. Com. N. Robilliard.	20 Mar.	_____	_____	17 April.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—(by steamers)—51 days; sails 1st of every Month.—ROUTE—*To Cadiz, Gibraltar, Malta, Zante, Patras, and Corfu*, and thence returns in the same rotation.

FIREFLY, st. v. ...	Lt. Com. R. Baldock...	6 Feb.	_____	_____	31 March.
AFRICAN .....	Lt. Com. J. West .....	4 Mar.	_____	_____	26 April.

NORTH AMERICA—9 weeks : sails 1st Wednesday every Month.—ROUTE—*To Halifax and back to Falmouth*.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

DUKE OF YORK ..	Lt. Com. W. James ....	7 Feb.	_____	_____	11 April.
REINDEER ....	Lt. Com. H. P. Dicken ..	12 Mar.	_____	_____	14 May.

LEEWARD ISLANDS—12 weeks : sails 3rd Wednesday every Month.—ROUTE—*To Barbadoes, St. Lucie, Martinique, Dominique, Guadaloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and Falmouth*. Answers picked up by mail-boats and brought to St. Thomas to the packet.

REYNARD .....	Lt. Com. G. Dunsford..	17 Jan.	_____	_____	11 April
TYRIAN .....	Lt. Com. E. Jennings ..	18 Feb.	_____	_____	13 May.
BRISKE .....	Lt. Com. J. Downey ..	18 Mar.	_____	_____	10 June.

JAMAICA—14 weeks : sails 1st Wednesday every Month.—ROUTE—*To Barbadoes, St. Vincent, Grenada, JAMAICA, Crooked Island, and Falmouth*.

SHELDRAKE ....	Lt. Cm. A.R. Passingham	4 Feb.	27 Oct.	Jamaica	29 April.
SWALLOW .....	Lt. Com. S. Griffith ..	4 Mar.	_____	_____	27 May.

MEXICO, JAMAICA, and HAYTI—18 weeks : sails 3rd Wednesday every Month.—ROUTE—*To St. Domingo, Jamaica, Belize, VERA CRUZ, Tampico, Vera Cruz, Havana, and Falmouth*.—[This Packet takes the Carthagena mail, which is sent to Jamaica by a Schooner, and returns to meet the regular Jamaica Packet.]

PELHAM .....	Lt. Com. W. Leslie ....	22 Novem.	_____	_____	28 March.
OPOSSUM .....	Lt. Com. R. Peters .....	20 Decem.	29 Jan.	Jamaica	25 April.
SEAGULL .....	Lt. Com. R. Parsons ....	17 Jan.	_____	_____	6 June.
ECLIPSE .....	Lt. Com. W. Forester ..	18 Feb.	_____	_____	8 July.
LYRA .....	Lieut. Com. J. St. John	14 March	_____	_____	2 August.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks : sails 1st Tuesday every Month.—ROUTE—January to August inclusive : to *Madeira, Teneriffe, Rio de Janeiro, Bahia, Pernambuco, and Falmouth*.—September to December inclusive : to *Madeira, Teneriffe, Pernambuco, Bahia, Rio de Janeiro, and Falmouth*.

PANDORA .....	Lt. Com. Pandora .....	5 Decem.	14 Jan.	Bahia	25 April.
GOLDFINCH ....	Lt. Com. E. Collier .....	9 Jan.	21 Jan.	Madeira	29 May.
PIGEON .....	Lieut. Com. J. Binney ..	6 Feb.	13 Feb.	Madeira	26 June.
LAPWING .....	Lt. Com. G. B. Forester .	14 Mar.	_____	_____	2 August.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

CAMDEN—Lt. Com. J. Tilley, 20th March, arrived from Jamaica.  
 ESPOIR—Lieut. Com. C. Riley, 14th March, arrived from Lisbon.  
 MUTINE—Lt. Com. R. Pawle, 13th March, arrived from Jamaica.  
 MELVILLE—Lt. Com. C. Webbe, 19th March, arrived from Brazil.  
 NIGHTINGALE—Lt. Com. G. B. Fortescue, 9th Feb. arrived from Jamaica.

FLOWER—Lt. Com. W. Downey, 11th March, arrived from Halifax.  
 SKYLARK—Lt. Com. C. P. Ladd, 23d Feb. arrived from Brazil.  
 SPEY—Lieut. Com. R. B. James, 1st March, arrived from Leeward Islands.  
 STANNER—Mr. R. Sutton, 9th Feb. arrived from Mexico.  
 TARTARUS—Lt. Com. H. James, 20th Feb. arrived from Mediterranean.  
 VIPER—Lt. Com. L. A. Robinson, 23d Feb. arrived from Lisbon.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 190.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
87 Ann				South Cain.	23 Feb.	Crew drowned.
88 Ajax				Chagres		
89 Aspasia		Savanna	Greenock	Black Rock	2 Mar.	
90 Busey		Stockton	London	At Sea	24 Feb.	Foundered, cr. sd.
91 Branceforth Castle	Furnbull	Newcastle		Off Flambro'	24 Feb.	Abandoned.
92 Captain Cook	Armstrong			Flambro' Hd.	24 Feb.	Crew saved.
93 Carmarthen	Lodge	Memel	Newcastle	Carleson.	20 Feb.	Crew saved.
94 Catherine	Travers			Milford H.	2 Mar.	
95 Catherine	Wood	Inwirtheth	London	Off Yarmth.	23 Feb.	Crew saved.
96 Climax	Laugh	Of Blyth		Colnecoats	7 Mar.	Crew saved.
97 Conference	Craggle			Gunfleet	7 Mar.	Crew saved.
98 Dorothy				Off Whitby	16 Mar.	Crew saved.
99 Duke of Kent		Mauritius	Launceston	Off Launcest.	17 Sept.	Crew saved.
100 Edgar		S. Shields	London	Scroby Sd.	13 Feb.	Crew saved.
101 Elizabeth	Scott	Galway	Plymouth	Not heard of	since	15 Jan.
102 Emilia	Not heard	of since	10th Dec.	Bristol		
103 Express	Gunn	Lerwick	Belfast	Orkneys	25 Feb.	Crew saved.
104 Firm	Kirkaldy	London		Off Holy I.	4 Feb.	On a sunken rock, Crew saved.
105 Friends Goodwill		Terceira	London	Not heard of	since	7 Dec.
106 Gleauer	M'Ewin	Liverpool	Ayr	E. Hoyle	8 Mar.	Crew saved.
107 Golden Grove	Snell			St. Michael's	5 Feb.	2 drowned.
108 Grace		Dublin	Workton.	Maryport	Feb.	Crew drowned.
109 Happy Return		Guernsey	London	Pan Sand	10 Mar.	
110 John and Elizabeth		Newcastle	Montrose	At sea	28 Feb.	Abandoned.
111 John & Mary						
112 Julia		Pembroke	Gloicester	Breaksea Pt.	22 Feb.	Crew saved.
113 Lady's Adventure		Glasgow	Tobago	Lochindahl	5 Feb.	Crew saved.
114 Lady Douglas	Pierce	Brizham	Dublin	W. Hoyle	24 Feb.	Crew saved.
115 Lady Louisa	Pallant	Newcastle	Aldboro'	Brizham	1 Mar.	Crew saved.
116 Lively	Brown	Newcastle		Flambro' Hd.	23 Feb.	Crew saved.
117 London		Ramsay	Liverpool	Gunfleet	25 Feb.	Crew saved.
118 Lovely Nelly	Cowan	Dublin	Liverpool	File Foudray	12 Feb.	Crew saved.
119 Manfred		Inverness	Leith	Foundered	12 Feb.	
120 Mars		Launceston	London	Scorial Rks	25 Feb.	Crew saved.
121 Mediterran.	Crichton	Perth	London	Falkland Isls	1 July	
122 Norah	Burnley	Demerara	Liverpool	Not heard of	since	14 Jan.
123 Pallas		Sunderland	Liverpool	Hoyle Bank	Jan.	1 saved
124 Renne		Runcorn	Schiedm.	Hinder	3 Mar.	Crew saved.
125 Robert Peel		Liverpool	Brazil			
126 Rob Roy	Jones	Limerick	Portsmouth	W. Hoyle	24 Feb.	9 saved.
127 St. Francis		Sunderland		Not heard of	since.	21 Dec.
128 St. Helena		Shields	London	Lowestoffe	March	
129 Scotsman	Barney	Dundee	London	At sea	24 Feb.	Foundered, cr. sd.
130 Sir Dd Milne		Hull	Charleston	Heriot R.	4 Feb.	On the Heriot R.
131 Superb		Cork	Newcastle	At sea	7 Mar.	Abandoned.
132 Thames Steamer		Scarboro'	Sunderland	Brazil Bk.		
133 Tyne & Rose				Off Flambro'	Feb.	Crew saved.
134 Union	Wells	Gool	Dummanus B.	Saifleet	9 Mar.	
135 Vine		Adrossan	Boston	17 Feb.	Crew saved.	
136 William		Liverpool	Sligo	Sheephon By.	7 Feb.	Crew saved.
137 Wm. & Mary	Lynch	Belfast	Liverpool	At sea	3 Mar.	Run down, cr. svd.
			Londouder.	I. Mull	5 Feb.	

At page 195 of our second volume, our readers will find the well-known story of a vessel's papers being found in the stomach of a shark in the West Indies, by Lieut. Fitton, R.N. The following extract from the Morning Advertiser, of the 17th of March, gives another instance of the kind.—“The schooner Carlotta was boarded in March, last year, by H. M. S. Pickle, but having on board no papers to criminate her, she was allowed to escape. On the same night, the accounts state, that the quarter-master of the Pickle captured a SHARK, and, on its being opened, a roll of papers was discovered in its belly, ‘now in our office,’ says the Editor of the Jamaica Herald, and sent to us by the commander of the Pickle,’ which proved that the Carlotta had landed a cargo of 293 slaves, about four hours before the Pickle overhauled her.”



**BELL ROCK.**—The sea has been observed to run higher on the Bell Rock during the late gales than it has hitherto been known to do. The monthly returns from the lighthouse for January shew that on the 17th, the springs rose 116 feet, and drifted over the building; and on the 18th and 19th they rose to 110 feet. It is worthy of remark, that the ground-swell or heaviest sea preceded the highest wind by two days. Several large masses of rock, called "travellers" by the lightkeepers, have been thrown from the deep upon the rock; one of which measures 8ft. 6in. in length, 2ft 6in. in breadth, and four in thickness—or about 5½ tons. The visitation of these travellers is a source of great interest to the lightkeepers, who proceed to break them up with large hammers, when at all manageable, to prevent their drifting upon the cast-iron railways or landing wharfs.—*Edinburgh Evening Courier*.

**UNITED SERVICE MUSEUM.** The annual general meeting of the subscribers to this excellent institution has taken place since our last. The report of the council says, that 397 new members have been added, making a total of 3,977, with many particulars confirmatory of the complete success of the original design. Arrangements have been made for the delivery of lectures; indeed, the first on the subject of African Geography has already been given by Captain Mc Konochie, R.N. the excellent secretary to the Geographical Society. It must be gratifying to the officers of the two professions to contemplate this result of their united efforts, and to know that for the small amount of ten shillings annually, they can enjoy the advantages of a good library, and free access to their accumulated treasures from the four quarters of the globe.

### **Births.**

The lady of Charlton Bayly, Esq. R.N., Mount Radford Terrace, Exeter, of a daughter.

The wife of Lieut. Shapcote, R.N., of a daughter.

At Gosport, on the 10th of March, the lady of Mr. G. A. Achison, Surgeon, R.N., of a son.

On the 17th of February, the lady of Captain Barnard, R.N., of a daughter—her thirteenth child.

At Forton Lodge, the lady of Lieut. Hallows, R.N., of a daughter.

On the 10th of March, at Wickham House, near Canterbury, the lady of J. H. Boteler, Esq. Commander, R.N., of a daughter.

### **Deaths.**

On the 8th of October last, at Macao, of fever, in his 26th year, Mr. William Henry Daniel, Mate of his Majesty's ship Imogene, and second son of Capt. Daniel, R.N., of Dedham, Essex.

Lately, in France, in the 37th year of his age, of liver complaint, contracted in his Majesty's service, in the East Indies, Lieutenant H. Manning Twight, R.N., leaving a widow and six children.

On Mar. 15, at Hinton, Hants, Admiral Sir G. I. Tapps, Bart., in his 83d year.

At Brockhurst, on the 6th of March, after a few hours' illness, in the 52nd

year of his age, Lieutenant James Little, R.N., of (1801).

At Malmesbury, Lieutenant Charles Stronge, R.N., (1815), aged 51.

At Calcutta, Lieut. John Anderson, R.N., (1814), aged 42.

At Haslar Hospital, Mr. J. Melvin, Purser, R.N., (1809), aged 46.

On the 12th instant, at West Cowes, Lieut. Thomas Eversfield, R.N., (1824), aged 37.

At his residence, Com. S. Featherstone, R.N., (1790), one of the oldest freemen, and for many years past one of the common council, of the borough of Plymouth.

On the 17th instant, Com. Sir Peter Parker, Bart., R.N., aged 25.

Lately, in Dublin, Lieutenant James Tandy, R.N., Coast Guard Service, aged 42.

At Southsea, on Thursday last, Mr. Peter Coyde, R.N., father of Lieut. Coyde, R.N., aged 66.

At Milford, aged 47, Captain W. R. Jackson, R.N., Inspecting Commander of the Coast Guard Service at Milford.

At St. Ives, Capt. E. Roberts, R.N., aged 49, agent to the late Sir C. Hawkins.

At Rio Janeiro, on the 18th Jan. Mr. Guy, Purser, his Majesty's ship North Star.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**FEBRUARY, 1835.**

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	Su.	30.28	30.26	46	51	39	51	S.W.	S.W.	3	4	Bcm.	Bcm.
2	M.	30.15	30.17	49	53	40	54	S.W.	W.	5	5	Odr (2)	B'c.
3	Tu.	30.37	30.40	44	49	40	50	S.W.	W.	5	5	O.	O.
4	W.	30.46	30.44	42	48	39	49	S.W.	N.W.	4	4	B.	Bc.
5	Th.	30.19	29.98	43	50	38	50	S.W.	W.	6	8	Bc.	Qp (4)
6	F.	30.17	30.24	36	42	33	43	N.W.	N.W.	7	6	Qp (1)	Qbcp (4)
7	S.	30.05	29.91	45	49	38	51	S.W.	S.W.	5	7	Qp (1)	Qop (4)
8	Su.	29.76	29.65	37	45	36	46	W.	W.	9	6	Qbc.	Qbc.
9	M.	29.90	29.92	35	39	32	40	N.W.	N.W.	7	6	Qbcp (1)	Qbc.
10	Tu.	30.10	30.30	30	36	28	38	N.W.	N.	8	6	Qbchs (1)	Qbc.
11	W.	30.40	30.36	34	40	25	41	S.W.	S.W.	4	5	Og.	O.
12	Th.	30.13	30.17	44	45	37	47	S.W.	N.W.	3	3	Ogr (2)	O.
13	F.	30.32	30.22	37	44	32	44	S.W.	W.	2	3	O.	O.
14	S.	30.00	29.90	42	48	40	50	S.W.	S.W.	2	2	Od (2)	Od (3)
15	Su.	29.66	29.54	48	51	46	52	W.	W.	5	4	Or (2)	Bc p (3)
16	M.	29.52	29.58	41	45	40	46	N.W.	N.W.	3	2	O.	O.
17	Tu.	29.71	29.73	40	44	36	44	S.W.	N.W.	3	3	Bcm.	Bcm.
18	W.	29.46	29.48	45	47	36	48	S.W.	S.	3	4	Od (2)	Lp (3)
19	Th.	29.47	29.38	39	46	33	47	S.W.	S.W.	5	9	Bcp (1)	Qr (4)
20	F.	29.28	29.29	37	47	34	47	S.W.	S.W.	7	8	B.	Or (4)
21	S.	29.29	29.34	36	43	31	45	W.	S.W.	6	5	B.	Qbcp (3)
22	Su.	29.76	29.68	35	47	32	48	S.W.	S.W.	2	6	Bm.	Qor (3) (4)
23	M.	29.30	29.46	45	47	40	49	W.	W.	9	11	Qbc.	Qbc.
24	Tu.	29.78	29.83	36	43	32	44	W.	W.	4	4	B.	Bc.
25	W.	29.59	29.43	44	50	33	51	S.W.	S.W.	10	10	Qo.	Qor (3) (4)
26	Th.	29.33	29.48	43	48	40	50	S.W.	S.W.	9	9	Q'bc.	Qlr (4)
27	F.	29.24	29.28	43	47	38	48	S.W.	S.W.	8	6	Qbcp (2)	Phr (3)
28	S.	29.72	29.80	39	42	34	44	N.W.	N.W.	3	3	Bcm.	Bcm.

**FEBRUARY**—Mean height of Barometer=29.833 inches; Mean Temperature=41.4 degrees;  
Depth of Rain fallen=2.40 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

**WIND.**

- 0 Calm.
- 1 Light Air.
- 2 Light Breeze.
- 3 Gentle Breeze.
- 4 Moderate Breeze.
- 5 Fresh Breeze.
- 6 Strong Breeze.
- 7 Moderate Gale.
- 8 Fresh Gale.
- 9 Strong Gale.
- 10 Whole Gale.
- 11 Storm.
- 12 Hurricane.

**WEATHER.**

- b Blue Sky—whether clear or hazy atmosphere.
- c Clouds—detached passing clds.
- d Drizzling Rain.
- f Foggy—f Thick fog.
- g Gloomy dark weather.
- h Hail.
- l Lightning.
- m Misty hazy atmosphere.
- o Overcast—or the whole sky covered with thick clouds.

- p Passing temporary showers.
- q Squally.
- r Rain—continued rain.
- s Snow.
- t Thunder.
- u Ugly threatening appearances.
- v Visible clear atmosphere.
- w Wet Dew.
- Under any letter indicates an extraordinary degree.

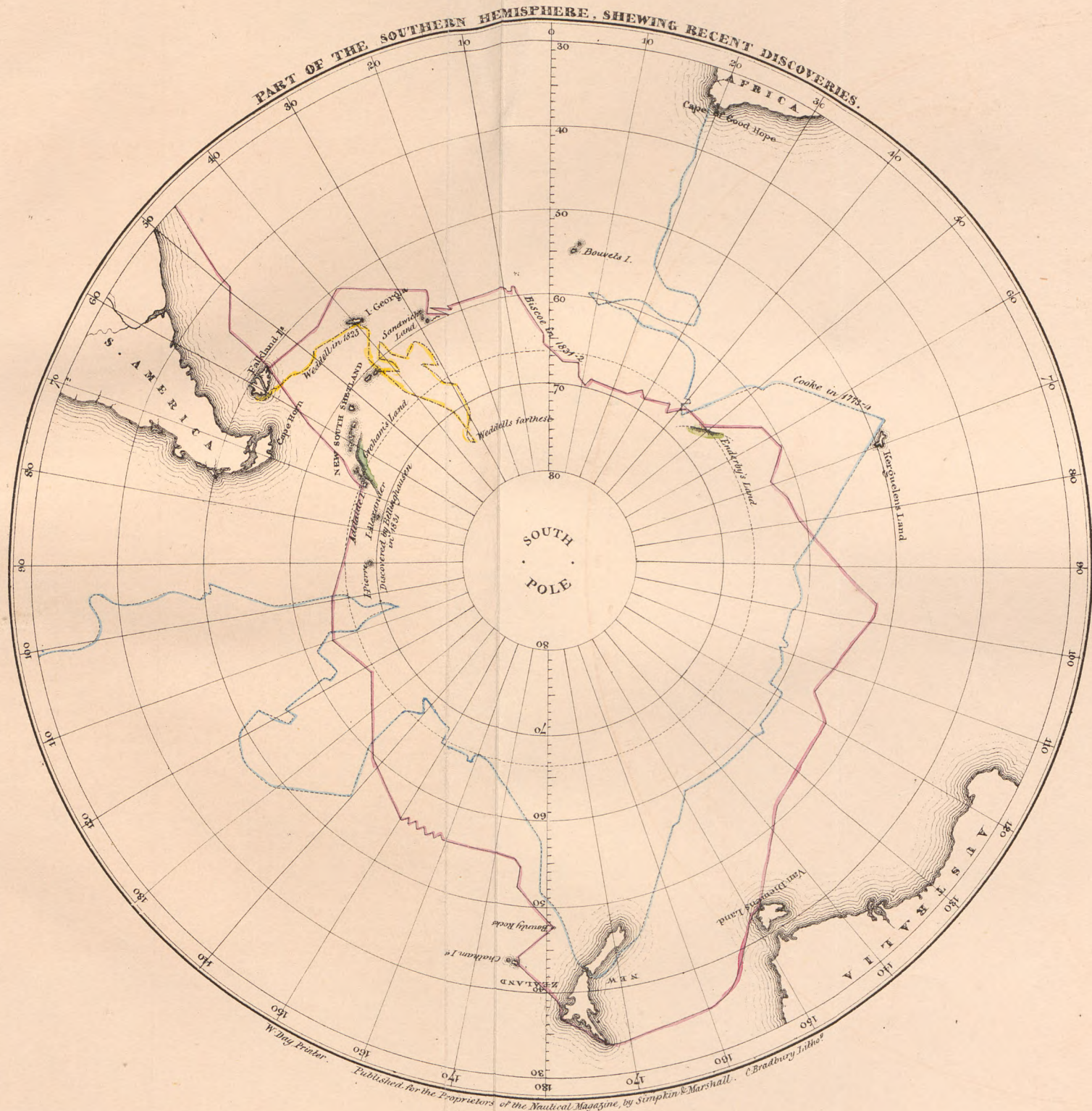
*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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# THE NAUTICAL MAGAZINE.

MAY, 1835.

## HYDROGRAPHY.

"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

### 26. HARBOUR OF TRIPOLI.

Compass Bearings.

THE following useful remarks on this harbour are from those of Capt. the Hon. R. S. Dundas, when in command of H. M. S. *Belvidera* :—

PASSAGE TO TRIPOLI.—On the 5th of July 1832, we sailed from the Archipelago for Tripoli in Barbary. Our passage there was such as may often be expected in the Mediterranean at this season, the winds being commonly light, and principally from the northward. At noon on the 13th we were in lat.  $33^{\circ} 30' N.$ , and the chronometers gave the long.  $13^{\circ} 50' E.$ , and having run about eighteen miles S. W. by W.  $\frac{1}{2}$  W. before sunset, we discovered high mountainous land to the southward, which is situated at some distance from the coast; but the coast itself near Tripoli is low, and will seldom be seen at the distance of more than twelve miles.

In the evening the wind came round to the eastward, and we hauled more to the southward, sounding regularly as we stood in for the land. We found the soundings agree well with those marked upon Captain Smyth's chart, and at midnight we tacked off shore, and stood off and on in from sixty to forty fathoms, having indistinctly made out the coast by moonlight. At daylight in the morning it was nearly calm, and there was a thick fog which lasted till ten o'clock in the forenoon, by which time we had shoaled the water to thirty fathoms, and the fog suddenly clearing, with a breeze from the N.E., we discovered the town of Tripoli, bearing S.E. by S. about four miles from us. Steering directly towards it, we anchored in sixteen fathoms water, to the northward of the town, nearly in the position pointed out by Captain Smyth, with the French fort S.  $\frac{1}{2}$  E. at a large half-mile from the shore; but we shifted afterwards further out, and anchored in seventeen fathoms, with the French fort S.  $\frac{1}{2}$  W., and the easternmost of the harbour rocks S.E.  $\frac{1}{2}$  E. The Bashaw's castle was seen over the low part of the Mole.

This is a safer berth, but ships anchoring in these roads must be guided by convenience, and the state of the weather, as there is no shelter whatever. As soon as we had let go the anchor, we found what we had before suspected, that there was a strong current setting alongshore to the westward, but we observed afterwards that the currents were very irregular and uncertain. It is therefore necessary to guard against mistakes in running in for the land. At the distance from which we first discovered the town, there can be no difficulty in recognizing the different objects on the shore, but when further off, it may be well



to remember, that in the direction of the Kaliusa Reefs, to the eastward of Tripoli, the whole coast for several miles is thickly covered with date trees, which will always appear dark above the horizon. The fortifications, minarets, and other buildings in the town, are the colour of white sand, and the trees extend only about a mile and a half to the westward of it, where the coast begins to be low sand-hills. There is a detached clump of trees still farther west, at the Tower of Gargatsch, which is useful to remember, as this tower kept in sight to the northward of the town, leads clear to the northward of all the reefs to the eastward of Tripoli.

The winds upon the coast at this season are land and sea breezes; but once or twice during a month that we remained here we had fresh northerly winds, with a disagreeable swell. The land-wind which blows from the southward in the night, commonly draws round to the westward towards daylight in the morning, and, after an interval of calm, the sea-breeze sets in early in the day at north-east, drawing gradually round to east, and E.S.E. in the afternoon, when it blows moderately fresh till sunset. Fogs in the morning are not uncommon.

October, 1832.—From such observations as I had made on my first visit, I had satisfied myself, that with a leading wind a ship could be conducted between the shoals in not less than twenty-one feet water, and, trusting otherwise in some degree to the correctness of the chart, the *Actæon* and ourselves succeeded at once, upon our arrival, in entering with the usual easterly breeze without the assistance of the pilots; but I would advise no person to make the attempt with less previous knowledge of the place than we ourselves had obtained. With this caution, the following are the best directions I can give:—

With the easternmost of the harbour rocks, which shew plainly above water, bearing any where from S.S.W. to S.S.E., steer down in the direction of them, so as to pass to the eastward, between them and the west point of the Kaliusa Reef, being careful to keep the trees and tower of Gargatsch in sight, to the northward of every part of the town, until the marks on the shore to the southward can be brought on, and are distinctly seen.

The English fort, which stands close upon the shore, about a mile to the eastward of the town, is a conspicuous white semicircular fort, and will be easily made out.

Still further east, upon a steep cliff of moderate height, stands a summer-house and white garden wall, belonging to the English Consul-General. Upon the west end of this wall a black patch is painted, expressly as a mark. The Consul's house, the colour of grey slate, will be seen amongst the trees behind it; and the black mark brought on with the centre window of the house bearing south, will lead nearly midway between the points of the Kaliusa and the harbour reefs, in six and seven fathoms water.

Steering on with this mark, there will be nearly six fathoms, and, as the ship draws in, observe the Bashaw's castle—a large irregular fortified building at the south-east corner of the town. With this castle bearing W.S.W. the southmost minaret in Tripoli will be seen immediately behind the castle, and this minaret in the same bearing, and in a line with one of the windows in the castle, is the only mark leading between the shoals into the harbour. A ship must be very carefully steered with this mark, and, from the irregular shape of the building, not less care is necessary to distinguish the particular window. There are only three distinct windows to the southward of it, and there is the apparent breadth of the minaret between it and the window next to the northward of it; but this description is not sufficient, and there is scarcely any other by which a stranger might not be confused.

This mark once known will lead directly into the harbour, in 5, 4½, and 4 fathoms, till the largest single Harbour rock bears north, when the water



begins to shoal regularly towards the Bashaw's castle; but in the narrow part of the channel, where the breadth is about seventy fathoms, a ship will pass over one spot upon which the depth is twenty-one feet. She will have passed within the middle bank, and the shoals opposite, when the large rock bears N.W.  $\frac{1}{2}$  W. and the English fort is nearly in the opposite bearing. She may then anchor, and moor with open hawse to the N. and N.N.E.; but if drawing more than sixteen feet water, care must be taken in selecting a safe berth. In heavy gales, and even in moderately fresh breezes, when the sea breaks heavily on the reefs, a ship, with the swell in the harbour, will send several feet. It is therefore necessary to moor in the deepest water, and there are not more than two, or perhaps three, berths in which ships of heavier draught can remain. No ship of heavy draught should attempt to enter at all when there is much sea on the reefs.

Having first anchored the Belvidera in four fathoms, we afterwards carefully sounded the harbour, and moored with the following marks:—

The minaret behind the Bashaw's castle in a line with the centre part of some very remarkable and peculiar dark shutters or blinds on the top of the castle. The northernmost minaret in the town, its own breadth open to the southward of the south angle of the highest northern fortification in Tripoli. The Mole flagstaff W.N.W. The large rock N.N.W.  $\frac{1}{2}$  W.

N.B. With the ship's stern swung to the southward, half the minaret shewed open to the south of the dark shutters.

The English fort flagstaff was, at the same time, in one with the door of the English burying-ground seen over the fort.

In this position we lay moored with open hawse exactly north, about three cables' lengths within the reefs. The ship swung in not less than from twenty-eight to thirty-one feet water; but at thirty fathoms from her stern, when swung S.E. by S., there was a shoal spot, upon which there is not more than twenty-one feet. To avoid veering in that direction, and to keep the ship as nearly as possible in the same position with the prevailing north-west and northerly winds, the sheet-anchor was laid out with a whole cable to the northward, in addition to the two bower-anchors. A hawser was bent to the sheet-cable, and in moderate weather was eased down upon the ground, but with strong northerly winds the cable was hauled in and spliced. In this manner the ship could always be made to ride by at least two, and sometimes by three anchors, with those winds. The bower-anchors east and west from each other, were both in thirty feet water, and we could veer in those directions. We never had wind enough from the southward, to have occasion to veer from that quarter.

On our arrival at Tripoli, in the commencement of October, the weather for the first ten days was fine, with the usual summer breezes; but, towards the middle of the month, an evident change took place, preceded by several days' rain, after which we began to experience the constant north-west and northerly gales which prevail upon the coast; and once in this month we had a very severe gale at north-east. The wind on the morning of the 25th was moderate at west, and drew round, as is commonly the case, to north-west early in the day. In the afternoon it began to freshen, and towards evening it came more round to the northward, till at midnight it was blowing a strong gale at north. Before daylight next morning, it shifted to E.N.E., and backing afterwards to N.E. by N., it blew a heavy and severe gale, with strong squalls and rain, which lasted nearly two days. It then gradually moderated. This was almost the only instance of strong winds to the eastward of north.

In November the prevailing winds were moderate at west and north-west, varying sometimes off the land to the south-west during the night, and in the



morning. Once or twice, we had dry hot southerly and south-west winds, which lasted the whole day. Towards the end of the month, there were several fresh north-west and northerly breezes, with rain.

In December the winds were constantly between west and north, varying occasionally in moderate weather to the southward of west in the night, but blowing more frequently in steady strong breezes at W. by N. and W.N.W., with clear cold weather; on other occasions it blew in strong gales, with squalls and rain, at N.W. and N.N.W.

In January the winds were more moderate than in December. We had frequent light winds off the land at night, and variable moderate breezes in the day, but the usual west and north-west winds were common in this month.

In February, north-west and northerly winds were the most frequent, but, on the whole, the weather was moderate. Occasionally, in the latter end of the month, we had easterly sea-breezes during the day.

In March there were several strong gales from different quarters of the compass. On the 2d and 3d of the month, the wind blew strong at N.W. On the 5th, there was a fresh sea-breeze at east, which moderated at night, and freshened again on the 6th, at E.S.E., when it blew in heavy squalls from that quarter, till the 7th, covering the ship with sand and dust. It then moderated, and shifted to west. On the 8th and 9th, it blew a strong gale at N.W., and obliged us to strike topmasts. Between the 10th and 19th, we had variable winds and fine weather; but at the end of the month, strong winds from the westward occurred frequently, and more than land-winds from the southward, in the night shifted suddenly to west, in hard squalls, with rain.

The month of April was generally a fine month, with variable winds. Northerly winds, and easterly sea-breezes, were common, and dry siroc winds occurred several times.

The following are useful marks to remember in the harbour of Tripoli:—

The Consul's large summer-house in one with the centre of his house, leads directly to the west point of the Kaliusa Reef.

The black mark on the garden wall in one with the top of a small summer-house in the garden, seen over the wall, leads into three fathoms on the extreme east point of the Harbour Reef.

The black door of the English burying-ground open to the eastward of the east wall of the English fort, is a cross mark for being to the eastward of the eastmost eighteen-feet shoal in the harbour channel.

The north-west angle of the burying-ground wall open to the westward of the middle embrasure of the English fort, when seen over it, is a cross mark for being to the westward within the middle bank.

The following are the results of our observations at Tripoli:—

Latitude of the large Harbour Rock .....	32° 54' 58" N.
Longitude, by observations and rates to and from Malta	13 08 15 E.
Variation .....	16 58 West.

There is great difficulty in procuring good supplies of water at Tripoli. We were entirely indebted to the accommodation of the Consul-General, who, during the whole time we remained there, allowed the water from his wells to be drawn by bullocks, to fill the cisterns in his garden, and it was afterwards pumped down over the cliffs by the ship's engine, with long hoses, into the boats.

The landing in boats upon the south shore of the harbour in strong northerly winds, is often extremely dangerous. Ships should always be careful, when the sea is seen to break on the Kaliusa Reef.



27. REMARKS ON LATAKIA AND THE COAST OF SYRIA, *by Capt. Sir John Franklin, R. N.*

Compass Bearings.

Our only guide beyond Iskenderoon, in sailing along the coast of Syria, was the chart furnished by the Admiralty; and a very imperfect guide it is. The principal points of the coast of Karmania are called in it by different names than those by which they have been for a long time known, and by which they are noticed in the book of Sailing Directions. On laying down our observations by the chronometer, we were occasionally on shore by this chart when at the distance of five or six miles from the land. I did not therefore think the master of an English merchant-vessel whom I met, as much wrong, when he said such a chart was more calculated to mislead than to assist the navigator.\*

I was indebted to Captain Lyons for a plan of the anchorage before Latakia, and also for directing my attention to a very low and dangerous spit of sand, which forms the northern entrance into the bay, but which is unnoticed either in the book of Sailing Directions, or on the chart, though, from its length, and extreme lowness, not exceeding three feet in height at the point, or twelve feet in any part, it requires to be most cautiously approached. From being sand, this point cannot be distinguished at night, and the lead would be an unsafe guide. Neither is Cape Ziaret named in the chart, which forms the south point of the bay; and in the Book of Directions the town of Latakia is said to be on the south-east side of this cape, whereas it is on the north-east. A stranger therefore would expect to find the port south of Cape Ziaret, instead of to the north, and hence steer in for the bay south of the cape, as the merchant-vessel above alluded to was doing, until the Rainbow was seen at anchor before the proper harbour. In coming from the north-west, as we did, the first indication of Latakia is some wooded land which appears like an island, at the distance of twelve or fourteen miles. The mosque, and its lofty minarets, built on the summit of this land, are next seen; then some other minarets; and at length the lower land rises to the view, which terminates at Ziaret. The old castle, and the magazines at the scala at the inner harbour, are just then visible, to which the course may be directed, if you have clearly made out the low sandy point, and are at the distance of three or four miles from it. We passed this point at the latter distance, and when it bore north-east, we gained soundings in seventeen fathoms, and found the water to decrease gradually as we advanced. We anchored in

\* It is well known, that among the numerous surveys that have been made, the coast of Syria has been entirely neglected. There is not a chart of this coast extant, with any pretensions to accuracy: and it is not surprising that the Sailing Directions should be in equally as bad a condition.



twelve fathoms and a half, in the place the Madagascar had done in the preceding year, having Cape Ziaret bearing S.  $43^{\circ}$  E., the old castle at the entrance of the inner harbour S.  $62^{\circ} 20'$  E., the low sandy point N.  $8^{\circ} 20'$  W.; the extremes of distant land to the south, S.  $7^{\circ} 40'$  W.; and to the north Cape Possidi, N.  $10^{\circ} 30'$  E.; the minaret at the scala or landing-place, S.  $63^{\circ}$  E.; the minaret on the large mosque on the hill, S.  $74^{\circ}$  E. We were then distant from the landing-place in the inner harbour two miles and a half, from the low sandy point three miles and a half, and two miles from the nearest shore. This anchorage is completely exposed to the winds from south to north-west, by the west, and consequently to the sea-breezes, which invariably throw in a heavy swell.

A ship in the situation we anchored would have sufficient room to cast either way, and make sail even in a gale to which she could carry canvas; but still I consider the anchorage a very wild, if not an unsafe one. The inner harbour is protected by piers, and piles of stones, and is a safe place for vessels drawing twelve or thirteen feet water. Where the swell is almost constant outside, these vessels must often have to wait for an opportunity to get either in or out. These considerations lead me to suppose that the harbour of Latakia does not possess all the advantages to constitute it the support of Aleppo, that Iskenderoon does. It has not, however, become the sea-port of Aleppo, and several English, and other vessels, bring general cargoes, which are conveyed on canals in five days to Aleppo. No English merchants reside at Latakia; Signor Moses Elias, who has been the British consular agent for thirty years, transacts all their business; and we can join in the commendation of him given by former travellers, and say, "he is an excellent man." The only fortress at Latakia is the old castle at the mouth of the port, which seems in a ruinous state: we saw no guns mounted. The town was garrisoned by about 300 of Ibrahim's cavalry.

Latakia is a walled town, and contains about 8,000 inhabitants, including the residents at the scala. The Christians amount to about 1,500. Latakia is not a good place for supplies of any kind required by ships. Beef, mutton, and poultry can be procured, but at a high price. The latitude of our anchorage was  $35^{\circ} 48'$  N.

In sailing along the coast to the southward, we perceived that the town of Latakia is more distinctly seen in this direction, and at a greater distance, than from the north-west. We saw the castle of Markal, and the town and fortress of Tortosa, on which the colours were hoisted as we passed—the only place on the coast where this mark of respect was shewn. We sailed by Tripoli in the night, and arrived at Beirout on the second day from Latakia. Having no other guidance than the recollection of the pilot, who had not been here for six years, we came to an anchor immediately in front of the town, in twelve fathoms water, and about three-



quarters of a mile from the landing-place. This we afterwards learnt is not considered a safe berth, as the ground is rocky, and covered with long weeds, therefore bad for holding. In veering cable, the ship passed over a ridge of rocks, having only ten fathoms over it, while the anchor and the ship were lying in twelve fathoms. The cable got entangled with this ridge, and the ship, after the first day, never rode at the whole scope of the cable. The breeze set in strong from the N.N.W., and brought such a heavy swell soon after we had anchored, that we could not change our position. The better anchorage would have been half a mile to the south-west, in fifteen or seventeen fathoms; the castle at the landing-place will then bear S. S. E. or S. E. by S., which we had brought to bear S. W. by S., with the town completely open, which should not be entirely open to view when in the best berth. After the autumnal equinox, ships prefer going into St. George's Bay, where there is better anchorage. The following, however, were the bearings of our anchorage:—Fort to the right of the town, S.  $37^{\circ} 40'$  W.; high minaret in the centre of the town, S.  $27^{\circ} 20'$  W.; the outer of the rocks lying off the point of St. George's Bay, S.  $76^{\circ} 20'$  E.; the tower on this point, S.  $65^{\circ} 40'$  E.; highest part of Mount Lebanon, N.  $85^{\circ}$  W. Our chronometers gave the Arab's Tower at Rhodes only  $1' 18''$  west from that of Captain Beaufort; and, as we passed along the coast of Karamania, they were found generally to agree with his points. At Iskenderoon, they gave the anchorage  $1' 22''$  W. from his. The Bay of Beirout is exposed to winds from N. to W.S.W., and I do not consider it an agreeable place to ride out a gale from either of these quarters. A ship may find shelter from south-west winds in St. George's Bay; and in either of the two bays from south-east, which blows off the land. There are several batteries fronting the sea, on which a few guns were mounted, and two or three fortified towers facing inland from the town. All these were garrisoned by the troops of Ibrahim Pasha, of whom there were 600 infantry in the town. The number of inhabitants in Beirout are stated at 8,000, the Christians and Turks being nearly equal; there are but few Jews. The consul informed me that the British trade is gradually increasing: thirteen vessels, including English, Maltese, and Ionian, had been there since January last. Ships may procure water and fresh provisions at this place.

28. REMARKS ON THE HARBOUR OF SANTANDER. *By Mr. J. G. Northcote, late Master of H. M. S. North Star.*

Compass Bearings.

The following remarks on Santander are important to navigators, as it appears that considerable changes have progressively taken place in that harbour, by which the channels have been materially altered:—



In making for Santander from the westward, the first remarkable part of the sea coast is a large white sandy spot, which lies at the foot of a haycock-like hill; this spot is a little to the eastward of St. Martin, and about nine miles from the entrance of Santander, between which the land is moderately high and flat, with several watch-towers, a grove of trees, and signal station. Cape Mayor, on the starboard side of entrance, is rather more elevated than the line of coast, and ends abruptly, and has a watch-tower on its summit. S. S. E. from this is Cape Menor, which ends in a low flat point, with a reef of rocks running off a short distance which are steep to; from this, Port Point bears S.  $\frac{1}{2}$  E.  $1\frac{1}{2}$  mile. Between them is a roadstead where vessels may anchor in moderate weather, with Capes Mayor and Menor in one, in from 12 to 10 fathoms sandy ground; a short distance within these marks the ground is foul. E. N. E.  $\frac{1}{2}$  a mile from Port Point, and S. S. E.  $\frac{1}{2}$  E.  $1\frac{1}{2}$  of a mile from Cape Mayor is the island of Monro, which is steep too, except to the N. N. W., where, at the distance of half a cable's length, is a rock with only two fathoms water on it. Between this and Port Point the channel is perfectly clear, and the least water is  $5\frac{1}{2}$  fathoms.

Having made the port, which may be taken at all times with the winds from N. N. E. round by E. to S. E. you may sail on either side of Monro; and when you pass Port Point (which is steep to) bring Mount Castello (which is a hill like a haycock to the westward of Santander) open of the Oradada rock, and steer for it until up with the island Latorre, you may then incline a little northerly towards Point Promontorio, and bring Mount Castello in a line with the extreme point of St. Martin; steer thus, and it will lead you through the north channel in from 6 to 8 fathoms to the Bason, where you may anchor in 6 fathoms at low water, with the Castle of St. Martin N.  $67^{\circ}$  E., Port Point S.  $88^{\circ}$  E. and the Isle of Marnay S.  $26^{\circ}$  W., moor with open hawse to the southward during the winter, with a long scope of cable on the best bower.

Having made the port with the wind at all westerly, it will be impossible to gain a safe anchorage in the harbour against the ebb tide; it is therefore advisable to wait in the roadstead of Sardenaro for the flood, then taking the western channel, which is preferable in this case, and with your ship under such sail and command as to ensure her "staying" proceed as before, and when Mount Castello is well open of the Oradada rock, lay your ship's head to the northward, and back and fill up to the anchorage, bearing in mind that two-thirds of the way across to the southward the tide sets to the S. W. and round Passage Point Sand.

Since this harbour was surveyed by Tofiño in 1788, the banks and channels have very much altered. Observe—

First. The southern channel laid down in his chart does not exist, there being only 4 feet water where he gives  $3\frac{1}{2}$  fathoms, and is in some parts dry at  $\frac{1}{2}$  flood.

Secondly. The northern channel, described in the Directory as being seldom used, is the only navigable one, and is of good depth.

Thirdly. The Oradada Rock is steep to, only to the southward, being connected to the main by a ridge of rocks, on which the sea breaks with a moderate swell.

Fourthly. This harbour should not be attempted by a stranger under any circumstances, as the tides are strong and the banks frequently shift; it will also be impossible to gain a safe anchorage against wind and tide.

N.B. The pilots are well up to their business, and wait in bad weather under the lee of Puerto Point until you round it.

It is high water, full and change, 3H. 10M. P.M., and the rise 13 feet.



## ORIGINAL PAPERS.

## I.—VOYAGE OF THE TULA TOWARDS THE SOUTH POLE.

THE brig Tula, commanded by Captain John Biscoe, and the cutter Lively, commanded by Mr. Smith, being equipped in every respect for a whaling voyage to the South Seas, by the Messrs. Enderby, left Gravesend on the 14th of July, 1830. Without any particular occurrence taking place, the vessels arrived at the island of Sal, one of the Cape Verds, on the 25th of August following. There a sufficient quantity of salt for the purposes of the voyage was taken on board, and they sailed for the South on the 6th of September. On the 10th of November, after experiencing some boisterous weather, the vessels anchored in Port Louis of the Falkland Islands. Captain Biscoe was rather surprised at finding a little colony in a thriving condition at this place. Bullocks were selling by the proprietor, a Mr. Vernet, at ten dollars each. They were not, however, of the best quality, and not so good as the island could produce.

On the 27th of November, having obtained the supplies he wanted, Captain Biscoe left the Falkland Islands, and shaped a course to pass to the northward of the position assigned to the Aurora Isles, with the view, if practicable, of visiting Sandwich Land. On the 30th, the weather, which had become very bad since leaving the islands, was such as to oblige the Tula to lie to the wind under her trysails. The cutter was also lost sight of, and on the following morning was discovered having shipped a sea, which had washed away part of her bulwark, and stove one of her boats. The Tula also lost her jolly-boat from her stern in this gale. This weather was followed by that of a more moderate kind, although no less unpleasant from being attended with sleet and snow. The presence of albatrosses, petrels, and icebergs, were the usual indications of the stormy and dangerous region into which the vessels had now penetrated.

After experiencing a continued series of gales among icebergs, in which the vessels parted company on the 19th of December, when in the latitude of  $58^{\circ} 20' S.$ , and longitude by chron.  $25^{\circ} 11' W.$ ; about eight p.m., something was seen to the westward which had the appearance of land. On account of the thickness of the weather, nothing could be seen the next day, but on the 21st at noon, after trying as much as possible to get to the westward between the ice, land was seen bearing from S. by W. to W.S.W. The lat. was  $58^{\circ} 21' S.$ , long. by chron.  $26^{\circ} 45' W.$  Respecting this, (which appears to be Sandwich Land or the Southern Thule,) Captain Biscoe says, that the



land on the opposite side to Cape Montague, bearing about S.W. has a most terrific appearance, being nothing more than a complete rock about six or seven miles in length, covered with ice and snow, so that it was scarcely possible to distinguish the rock, the snow, and the clouds above, from each other. And there being no appearance of a landing place, after standing to within five or six miles of it, the opinion of most on board was that nothing of consequence could be obtained. This rock, which is quite perpendicular all round by the sea, is laid down at least 50' of longitude too far east. The southern end of this rock, which forms one of the islands of Sandwich Land, Captain Biscoe considers to be in  $58^{\circ} 25' \text{ S.}$ , and long.  $26^{\circ} 55' \text{ W.}$

Having stood in to reconnoitre land to the S.W. on the following day, the vessels, finding no traces of seals or elephants on the coast, stood away to the south-east from lat.  $58^{\circ} 52'$ , and  $25^{\circ} 45' \text{ W.}$  On the following day, December 25th, the captain remarks:—One a.m., “again made field ice ahead, but after making a board to the N.W., passed through to the southward, when in a very short time I found we had got into a small sea seven or eight miles in diameter, interspersed with icebergs and drift ice, the field ice making a complete coast as far as the eye could reach.”

Imagining that there must be land further to the southward and westward, Captain Biscoe made many attempts to penetrate in that direction, allured to persevere by the occasional openings in the ice. These, on examination, only proved to be deep bays, out of which it was at times no easy matter to retrace his course. On the 29th of December, finding the vessel so beset on all sides, and deeming it therefore advisable to relinquish his attempts, he stood for the Sandwich Islands, which he reached on the 30th December. Lat. at noon  $58^{\circ} 41' \text{ S.}$ , long.  $26^{\circ} 58' \text{ N.}$  In the course of this passage from the evident drift of some of the ice islands against the wind, the captain inferred the existence of a N.E. current.

In pursuing their voyage to the eastward, firm field ice was again encountered on the 5th of January, 1831, in lat.  $59^{\circ} 8' \text{ S.}$  and long.  $21^{\circ} 30' \text{ W.}$ , and as we find Captain Cook's track crossing this spot, we may conclude that the same impenetrable barrier existed in his time. Having on the 15th reached the longitude of  $7^{\circ} 50' \text{ W.}$ , on the same parallel, Captain Biscoe notices the fineness of the weather, comparing it with a moderately warm summer in England. The thermometer in air at this time,  $45^{\circ}$ , in water  $34^{\circ}$ , and in the sun  $77^{\circ}$ .

By the beginning of February, the vessels had reached the latitude of  $68^{\circ} 51' \text{ S.}$ , and the longitude of  $12^{\circ} 20' \text{ W.}$  The birds about the ice were there rather numerous, and a seal was seen, so that hopes were entertained that land might not be very distant,



and the weather becoming clear, this opinion was strengthened by appearances to the southward, which, however, proved illusive. Expectation was still kept alive by the birds becoming more numerous, and by the occasional presence of whales; the water also was observed to be discoloured, and it was resolved to try for soundings, but no bottom could be obtained with two hundred and fifty fathoms of line. Two days previous to this, Captain Biscoe having shot several birds resembling snipes, a boat was despatched to pick them up; the ice at this time was so thick on the surface of the water, that she could with difficulty force her way through it. This ice, the captain feels assured, was formed within the twenty-four hours, and he has no doubt that a week's calm would in this case have set the vessels fast. The fact of the freezing of the surface of the sea was noticed by him on several former occasions, from which he concludes that much of the field ice is formed at sea, and that it is no certain evidence of the proximity of land.

It was on the 23d of February, in lat.  $66^{\circ} 7' S.$ , and long.  $45^{\circ} 1' E.$ , that captain Biscoe first observed the aurora australis, although it had been seen by other persons on board on the night of the 20th. He describes it, on this occasion, as forming a very faint yellow-green arch, extending from S.S.E. to S.S.W., and of short continuance, entirely vanishing at the setting of the moon, which had been very bright.

Those expectations regarding land, that had been long indulged by all on board, but which had hitherto been disappointed, were now to be realized. On the evening of the 28th, the tops of mountains were seen protruding through the snow, by which all the lower surrounding tract was concealed. This land, which bore S.E., appeared at a great distance, but the sight of it encouraged all on board to make every effort to gain a nearer approach. Ice, however, surrounded the vessels, and, although each hour presented some new prospect of success, disappointment followed; the vessels not unfrequently suffering severe blows from the ice, and narrowly escaping the danger of being immediately beset in the persevering endeavours which were made to approach the land. In the early part of March, another instance occurred of the freezing of the sea; after a few hours' calm, the ice on the surface was at least an inch thick. Thermometer at this time in air  $22\frac{1}{2}^{\circ}$ , in water  $30^{\circ}$ .

During the whole of the night the sky was illuminated by a most brilliant aurora, and Captain Biscoe, in noticing it in his journal, appears almost at a loss for words to describe its magnificence. Sometimes it was rolling above the vessels in bright columns of light, then assuming a beautiful fringelike appearance, and again darting its radiant streams in serpentine directions through the atmosphere; in short, it was allowed by



Captain Biscoe to be, without exception, the grandest phenomenon he had ever witnessed. So exceedingly interesting was the scene, that although the vessels were in considerable danger, and although with a smart breeze they were engaged in threading through the ice by which they were surrounded, the seamen could with difficulty be induced to withdraw their attention from the phenomena to their necessary and now indispensable duties. This beautiful meteoric display appeared so close as sometimes not to be more than a few yards above the vessels.

Every effort was renewed in order to approach the land, which was still thirty miles distant. A cape which had been seen on the 2d, and named Cape Ann, was inferred, by bearing, to be in lat.  $66^{\circ} 25' S.$ , and long.  $49^{\circ} 18' E.$  The wind, which was now beginning to freshen, increased by the 5th to a gale, attended with thick fog and intense cold. The *Lively* had not been seen since the early part of the gale, and the *Tula* suffered the loss of her quarter boats and part of her bulwark. On the 8th the wind moderated, leaving the vessel almost a wreck, a circumstance, which, together with the cutter's absence and the disabled state of the crew, occasioned the utmost anxiety to Captain Biscoe. Notwithstanding all this, he appears to have been still unwilling to give up his object, for he again made the land on the 17th; a very high mountain was seen bearing south, and Cape Ann was also recognized to the S.W. All approach, however, was utterly impracticable, and the many disappointments and disastrous occurrences which had attended him, together with the increasing sickness and suffering of his crew, compelled him at length to yield to the necessity of the case, and to abandon finally all further attempts to penetrate to the southward.

On the 2d April another brilliant exhibition of the aurora was witnessed, the movements of which on this occasion were like the opening and shutting of a fan, and various fantastic and extraordinary forms succeeding each other with the rapidity of lightning; but its general appearance was that of an illuminated mist blown about by furious whirlwinds.

Captain Biscoe now directed his course to the more genial climate of Van Diemen's Land, and made this island at daylight on the 7th May; a cheering sight to those who had undergone so many privations, and whose health and lives depended on a speedy supply of those necessities and comforts which a port alone could furnish. Previous to his leaving the inhospitable region of the ice, the carpenter of the vessel, a good and valuable man, died after a long illness;—the rest of the crew were in the sick list, with the exception of a man and a boy. On these, therefore, together with the two mates and himself, devolved the entire duties of the vessel, another of his men having died on the passage.

Although now in sight of land, baffling winds succeeded by



calms, with an adverse current, prevented their approach to the port. On the 8th, the vessel was 20 miles further off than on the previous day, and gloomy apprehensions, nearly allied to despair, took possession of the crew; so that all the energy of mind, which Captain Biscoe possessed, was scarcely sufficient to rouse them to exertion. At length, on the morning of the 9th, the wind favoured them, and the vessel stood in towards Storm Bay. Fearing that the wind might fail him, the captain did not think it prudent to lay-to; so that, although on an unknown coast, and possessing only a small plan of the bay for his guidance, he determined to persevere through the night, so as to ensure his reaching the Derwent river in the morning. At day-break, he found the vessel in a very good position for entering the river; and observing a flag-staff through the fog which prevailed, he made a signal of distress, but complains that no pilot came off to him, nor was any assistance given, until within half a mile of Sullivan's Cove. Several vessels were here at anchor, and among them the *Eliza*, then commanded by Captain Weddell, by whose kind assistance, with that of his crew, the *Tula* was at length moored in safety.

After an unsuccessful appeal to the agent for Lloyd's to undertake the agency of the vessel, Mr. Anthony Fem Kemp, on being made acquainted with the particulars of the voyage, and knowing the respectability of the owners, most readily undertook it, so that by four o'clock in the afternoon Capt. Biscoe had the satisfaction of seeing all his sick and suffering crew admitted to the comforts and benefits of the hospital.

The *Tula* having undergone the necessary repairs, and the health of her crew having been re-established, was proceeding to sea on the 3d Sept. 1831, when, in the entrance of the river, she unexpectedly fell in with her consort the *Lively*, which vessel had not been heard of since she separated from the *Tula* in the gale of the 4th March.

Mr. Avery, who now commanded her, had but a melancholy tale to relate to Captain Biscoe of the events which had occurred since they last met. Sufferings of every description seem to have been the inseparable attendants on the crew of this little vessel. Worn down by toil, disease, and famine, the preservation of those whom death had spared appears to have been almost beyond all hope or expectation; and the safety of the vessel, it would appear, alone depended on the talent and skill of one individual. A detailed account of this part of the *Lively's* voyage, characterized as it is by incidents of so much interest, would, doubtless, have been very acceptable to our readers; but our limits permitting us only to notice a few of the leading particulars, we cannot do better than quote an extract from the *Tasmanian*, a Sidney paper, which appeared in the *Times* of the 31st March, 1832:—



"We had the pleasure of conversing with Captain Avery, of the cutter *Lively*, and of inspecting that remarkably fine little vessel, which, being but a Cowes pilot-boat of about 40 tons, has semi-circumnavigated the globe, and in its most forlorn and dangerous regions. We understand that this fine cutter was fitted out as tender to the *Tula* by the owners, those very enterprising oil-merchants and shipowners, the Messrs. Enderbys, of London. The two vessels left the Falkland Islands together, and, when in a very high southern latitude, separated in a very heavy gale of wind. The *Lively* never again saw her consort until she rejoined her in this port. During five months, Capt. Avery pursued his instructions in the midst of the icy polar region, until, having lost all her crew, but himself, one man, and a little boy, (which latter had the misfortune to have his hand shattered to pieces by the accidental falling of the boat upon it,) he put into Port Philip, in the very utmost state of distress. There, while himself and his two surviving companions were on shore, endeavouring to obtain refreshment, the vessel was either driven away, or carried off by the natives, and after the lapse of a fortnight, when they gave themselves up for lost, and were so exhausted by want of food that they were unable hardly to move, they fell upon her by accident in one of the bays of that port. Capt. Avery is a plain, sailor-like man, but extremely intelligent and well-informed. His adventurous spirit may be well understood from the fact, that when he took command of his vessel, he alone, of the whole on board, could either read or write! so that, had accident confined him to his bed, (to say nothing of a more serious result,) the vessel's course through the trackless ocean must have been left to the gracious care of Divine Providence! We understand that very important discoveries have been made by both vessels, which, if they safely reach England, will abundantly reward their speculative owners. We believe this is the only instance where the great expense of a voyage of discovery has been incurred by private owners. Before the return of these vessels to England, great interest will be excited to learn the history of their interesting voyage, which, of course, will be made public, as far as the interest of the owners will permit."

Captain Biscoe now found it necessary to put back and arrange about the refit of the *Lively*. She had sustained very considerable damage, so that it was not until the 10th of October that the vessels took their final leave of Van Diemen's Land. It also became an object with Captain Biscoe to procure a cargo of skins and oil, in some measure to compensate for the losses which his owners must sustain by the disastrous occurrences that had hitherto attended their voyage. With this view he directed his course to New Zealand, as the season had now arrived in which the sperm whale might be expected on that coast, having first made a fruitless search along the shores he was now quitting.

Anticipating a long absence from port, in the event of being successful, it became a matter of consequence to keep their stock of salt provisions untouched as long as possible, and to procure fresh supplies whenever an opportunity offered; this consideration induced Capt. Biscoe to put into the Bay of Islands, where he was enabled to effect his purpose. The natives visited the vessels on their arrival, and a traffic was as usual commenced. Muskets, blankets, and tobacco, being given in exchange for pigs, vege-



tables, and other requisites for the voyage. In noticing the missionaries at this place, Capt. Biscoe appears to complain of their want of courtesy and hospitality to him, and mentions having been informed by a Mr. Hansen whom he met there, that they had refused to educate the children of the white settlers, alleging that the object of their mission was the conversion of the heathen, and not for that purpose. We hope that Capt. Biscoe may have been misinformed in this particular, for we are always sorry where any cause for complaint is found in a class of men whose lives are devoted to such noble and useful purposes, and whose general character and conduct must ever command the admiration and esteem of all who can fully appreciate the benevolent and pious design of their labours. We know not how to explain that want of courtesy with which Capt. Biscoe charges them, but are willing to hope that on a closer examination into all the circumstances, they may be found to have some good reasons for the adoption of a line of conduct at once so apparently questionable, and inconsistent with their calling.

Intent on accomplishing the mercantile objects of his voyage, Capt. Biscoe, on leaving New Zealand, visits successively Chatham Island, the Cornwallis Islands, and the Bounty Rocks, but with very little success. The Bounty Rocks (eight or nine in number) lie places in latitude  $47^{\circ} 50' S.$  and  $178^{\circ} 25' E.$

Proceeding still to the eastward, in the direction of the assigned position of the Nimrod Islands, great hopes were entertained on the 11th January that land would be seen, from the appearance of the water, and from the number of birds about the vessels. Soundings were tried for, but in vain.

On the 1st February, in lat.  $64^{\circ} 48' S.$  and long.  $116^{\circ} 27' W.$  the falling of the barometer led Capt. Biscoe to expect a gale, but none followed. The vessels were now again in the midst of their old companions, the ice islands. On the 3d, they had an opportunity of witnessing the falling asunder of one of these enormous masses; the noise was like that of thunder, and the separation of the fragments, which covered the surface of the sea, left the island about half its original size.

So much time had now been spent to so little purpose, and the cutter's sails being in so bad a condition, that it became desirable to hasten onward towards New South Shetland. On the 15th, in lat.  $67^{\circ} 1' S.$  and long.  $78^{\circ} 41' W.$  they had strong southerly gales with smooth water, and at 5 P.M., on the same day, they made the land, bearing E.S.E.; it being at a great distance, they stood towards it the whole night, and by noon the day following, they were within three miles of it, the body of the land bearing east. No bottom could be obtained with 250 fathoms of line. Captain Biscoe describes the land to be an island, having on it one very high-peaked mountain; the top of which was usually enveloped in



clouds. The mountains, with few exceptions, were covered with snow and ice, sloping gradually towards the coast, and terminating there in cliffs of about 10 or 12 feet perpendicular height; these cliffs are channelled by deep ravines, extending several hundred yards in land, and from them, in all probability, ice bergs are occasionally separated, and launched by gales, or other efficient causes, into the sea. The captain named this island Adelaide's Island. In standing to the northward, many other islands were seen;—these appeared to be very high mountains in the distance to the southward, but that part of the land nearer the vessels was perfectly level, indeed, a complete field of snow and ice. On the 19th, being very near an island, the captain sent a boat with an officer to examine it; it was found to possess a good harbour for shelter, but the bottom was rocky. This island, which he names Pitt's Island, is placed by him in lat.  $65^{\circ} 20'$  S. and long.  $66^{\circ} 38'$  W. Coasting along the land, the Tula stood in on the 21st, and sent her boat into a large inlet, in the hope of finding some seal; but, contrary to all expectations, not one could be seen. This being the main land, was taken possession of in the name of His most gracious Majesty King William IV.; the highest mountain being named Mount William. Another mountain was named Mount Maberly, as a mark of respect to Captain Maberly, of the Royal Navy.

On the 5th March, the vessels had reached New South Shetland, and put into a harbour called New Plymouth, where they found the schooner *Exquisite*, of London. Her commander informed Capt. Biscoe that the anchorage was perfectly safe, and so indeed it appeared. The sealing operations were immediately commenced by the boats, and continued a few days with some success; but as the number of the seals on the shores diminished by their labours, the captain resolved to extend his researches to the neighbouring islands, and sailed in the *Lively* on the 18th for that purpose, leaving the Tula moored in New Plymouth. The *Exquisite* had sailed for London the day previous. Captain Biscoe's success in the *Lively*, however, by no means repaid his perseverance, and he therefore returned to the Tula after a fortnight's absence.

The mate in whose charge she had been left, had been under the most painful apprehensions for her safety, a swell having set into the harbour on the shifting of the wind to the N. E. Preparations were now made for the departure of both vessels, but the swell became so alarming on the 10th, that the Tula struck the ground abaft, although anchored in  $4\frac{1}{2}$  fathoms. The rudder was shortly after carried away; and the tide falling, the safety of the vessel herself was very doubtful.

It now became necessary to provide for the security of the crew, who were with great difficulty put on board the cutter.



About midnight the Tula was observed to have swung athwart the tide, on which Captain Biscoe repaired on board, and made an ineffectual attempt to ship the rudder; he was glad, however, to find, on sounding the well, that the vessel had made no water. The swell continued with greater violence than ever throughout the following day, and on the weather-tide the sea was making a clean breach over the vessel. On the morning of the 13th, it in some degree subsided, which enabled Captain Biscoe again to proceed on board. The pintles of the rudder were found to have been carried away, and it was otherwise so much damaged, that considerable time was now occupied in its temporary refittings, and in getting it secured in its place.

It now became necessary to make for the nearest port where succour could be obtained, and Captain Biscoe therefore put to sea on the 15th, and reached Berkley Sound, Falkland Islands, after a very rough passage, on the 29th.

The cutter which had parted company the first night of their being at sea, was found at anchor; also the Exquisite before mentioned, and an American schooner. The wreck of the American ship Potosi was observed near a point of land at the entrance of Johnson's Harbour, where she had been driven from her anchors in a strong southerly gale.

It was thought desirable for the re-establishment of the health of the crews, to remain here some time, and an armourer's forge having been procured, men were set to work to render the damaged rudder perfectly efficient by the time they should be ready for sea.

It was not until the 19th of June that the vessels left Berkley Sound, with the intention of completing their cargo with whale oil, which they hoped to obtain in the bays further to the westward.

A fresh wind on a comparatively unknown coast induced Capt. Biscoe to lay-to during the night; and not seeing the Lively in the morning, he directed his course to New Island, the appointed rendezvous in case of separation. No cutter, however, made her appearance, and after waiting till the 19th of July, it was determined to put to sea in search of her. The season was now too far advanced to expect much success in whaling; indeed two American vessels had just made a favourable termination of their labours, and, considering the season at an end, were now proceeding homewards.

After beating about among the islands, Captain Biscoe returned to Berkley Sound on the 6th August. There he found Mr. Avery and the crew of the Lively, who had been brought from Mackay's Island, where their unfortunate vessel had been wrecked. The crew of the Tula being now nearly doubled, it was deemed absolutely necessary to put them on a reduced allowance of provisions, and to procure additional supplies as soon as possible.



Captain Biscoe thought that the island of St. Catherine would be the best place to resort to on this occasion, and he consequently made the best of his way there. He reached the anchorage of Santa Cruz on the 17th, and, nothing daunted by the disheartening occurrences which had continued to attend him throughout his protracted voyage, he had formed the design of trying another season round Cape Horn previous to shaping his course homewards, and had entered into the necessary contracts to be furnished with supplies for that purpose. "But my crew," says Captain Biscoe in his journal, "were quite out of heart with the voyage, and are leaving me one by one, as opportunity offers; in which," he continues, "I can hardly blame them." The whole crew having deserted him by the 29th of September, with the exception of four men and three boys, he resolved on returning to England. He had experienced much bad weather in his passage to St. Catherine's, and considerable damage was done to the upper-works of the vessel, so that it was not until the 3d of September that he took up his anchor, and then, to add to his misfortunes and chagrin, he grounded on the bar in going out, and was in consequence further detained until the 10th.

Captain Biscoe speaks of St. Catherine's as a very convenient port for vessels not drawing more than twelve or thirteen feet water. The bar which runs across the passage a little below Rat Island has not more than eight feet on it in the lowest tides, nor more than thirteen or fourteen in the highest; but the rise of the water depending principally on the wind, it is difficult to give a particular statement of the depth. The highest tides occur during the prevalence of the southerly winds within two or three days of the full and change of the moon, and the lowest with the N.E. winds, which generally blow throughout the remainder of the month. The bottom on the bar is exceedingly soft, so that a vessel on grounding need not apprehend much injury.

Captain Biscoe recommends all vessels bound to St. Catherine's to make the island well to the northward, as the winds generally prevail from that quarter and from the N.E., and, as a southerly current sets through the straits, acquiring near the shore a velocity of two knots. This current, however, changes to the contrary direction in northerly winds. There is a small white rocky island off Avvoredo, which, not being previously known to Captain Biscoe, a little confused him in his approach, the day having closed upon him before he could reach the port. But the position of a ship being once ascertained by the islands of Gal and Avvoredo, there is no danger in her standing on in mid-channel, and, passing the small rock St. Pedro, she may anchor in safety above Santa Cruz. Fruits and other refreshments, he says, are cheap at this place, but the anchorage dues ( $1\frac{1}{2}$  milreas per day) exorbitant.



Nothing material occurred in Captain Biscoe's passage to England; he reached the Downs on the 1st of February, 1833, and thus terminated a voyage which assigns to him no humble station among the persevering and enterprising of our countrymen, who have added to our nautical and geographical knowledge of the southern regions of the globe. The land discovered by Captain Biscoe on the parallel of  $67^{\circ}$  S. and in longitude  $50^{\circ}$  W. has been named Enderby's Land, in honour of the Messrs. Enderbys of London, who fitted out this expedition, and who on so many former occasions have been distinguished by their public-spirited encouragement of enterprise and discovery. Captain Biscoe, at a meeting of the Geographical Society, had the honour to receive the premium which is annually awarded to the individual who may be allowed at the time to claim the pre-eminence either in the untrodden field of discovery, or in contributing to those improvements, which are no less important to the perfection of our geographical knowledge.

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II.—ON THE NAVIGATION OF THE EUPHRATES. *By F. R. Chesney, Captain Royal Artillery.*

THE coast of the Mediterranean, near Aleppo, offers two ports, each sufficiently well adapted to accommodate a steamer without any previous expense whatever, viz. Lattaquia, and Scanderoun;\* and two more which could be rendered available for the purpose, but at some expense; these are the ancient harbour of Seleucia and a smaller one near the mouth of the Orontes, between two and three miles from the sea, the whole forming an irregular arc, of which Aleppo may be considered the centre, Lattaquia one extremity (the south,) and Scanderoun the other; with the Orontes and Seleucia† intervening; and at shorter distances (though not materially so,) from Aleppo than the other two.

The ancient port of Lattaquia is partly natural and partly artificial. It is an irregular oval, the larger side about 600 feet long, parallel to the sea, (from which it is separated by a solid wall, now much decayed,) and the shorter about 500. The entrance is from the West, and about 80 feet long by 60 feet wide, having a rock close to its Southern side; and as the deep water is nearly parallel to the shore, vessels make a N. E. course until near the entrance, when they steer nearly East, and keep on the North side of the rock, between the middle and the latter side of the passage; in which there is a depth of from 12 to 16 feet water, and about 18 in the basin within.

The retaining wall of the harbour being much dilapidated, the sea (during violent storms from the S. W.) enters over the low land

\* Latakia and Iskenderoon in the map of last number. † Swadia.



in that quarter, bringing with it sand and rubbish, to the great detriment of the basin; and as no efforts whatever are made to clear it out, there has been produced, from time to time, an accumulation of mud, &c. which has choked up the greater part of the basin, leaving at present only space sufficient for from five to seven vessels of 150 and 200 tons. In ordinary weather there is no difficulty in making this port; but occasionally, during gales of wind, vessels bound thither are forced to bear up for Scanderoun; but once inside, (and a steamer could make it at all times,) the harbour of Lattaquia is considered by mariners perfectly secure for the limited number of vessels mentioned. Were the port cleared out, and a partial repair of the retaining wall effected on the N.E. and S.W. sides, (for which there is a sufficiency of cut stones on the spot,) the basin would contain about 40 vessels, and remain free from mud for a long period.

This port, which is a good deal frequented by vessels with cargoes for Aleppo, is 40 caravan hours from the latter city, about twelve or thirteen of which are over a mountainous road, as far as the Orontes nearly; but thenceforward it is plain and a good road to Aleppo.

The other place immediately available, is the roadstead harbour of Alexandretta,\* which is surrounded by high mountains along three-fourths of its circumference, and part of the remainder is sheltered by the indenture of this part of the bay itself; thus forming an extensive and perfectly safe anchorage at a quarter and half a mile from the beach, almost land-locked, and so well protected from every wind, that no instance is recorded of a vessel being driven from her anchors. Scanderoun is capable of containing a very large fleet, either of men-of-war or merchant-vessels; and the latter lie so close to the shore, which is rather bold, that several may discharge or take in at the same time. There were nine European vessels (two of them from England) in the roads when I visited the place last month, in part or wholly for Aleppo. The British vessels had cotton twist and British manufactures, which are transported to that city in 25 caravan hours by the shorter road, and 30 or 32 by the longer one of Antioch, crossing, in both cases, the Beilan mountains by a tolerable carriage-road, with an ascent of three hours (somewhat steep) to the town of Beilan, and as many more descent to the plain, which continues a dead level all the rest of the way; consequently the transport to, and from Aleppo, is without difficulty, and at moderate charge: nor is the Beilan road too steep for camels, here much in use, and a complete proof of the facility; it being well known that these animals cannot pass mountainous, or even very hilly ground with burdens.

But whilst Alexandretta possesses all that is necessary to faci-

\* Iskenderoon.



litate commerce, there is one very serious but not quite an irremediable drawback, the climate, which is very trying from May till October, during which time this port is avoided as much as possible by all vessels: and partly owing to this cause, and partly owing to the expense of maintaining passing troops, Tartars, &c., the town has been gradually deserted, all but a few miserable houses, occupied by boatmen, muleteers, and labourers employed in the stores and about the vessels, &c.

The Mal-aria appears to be confined to Scanderoun and its immediate vicinity; the mountains around the bay being *quite* free from it, and even the anchorage itself is so in some degree, as it is the prevailing opinion that the crews of vessels, when lying beyond the ordinary anchorage, are not attacked by fever, provided they had no intercourse with the shore; and the opposite side of the bay (between five and seven miles from the town, where there is no marsh, as the mountains rise abruptly from the water's edge) is admitted by all to be perfectly healthy; and there the steamer could anchor during the unhealthy months, until the very moment when she must approach the town to receive the passengers and mails for England.

The most cursory glance at the environs of Scanderoun must discover the cause of its unhealthiness; the sea has evidently receded some distance, leaving a pebbly bank sufficient to close almost entirely the mouth of a small river, which now spreads out behind the bank and forms an extensive marsh,\* covering nearly the whole of the space between the foot of the Beilan mountains and the sea, (that is, about two miles wide by three or four in length;) but as the marsh is higher than the sea, it would be an easy and inexpensive undertaking to give an outlet to the river, and make the few cuts necessary to drain the ground, and thus change it effectually from marsh, to the most productive gardens or tillage; and from a state fatal to life, to one of entire, or, at least, comparative healthiness; an advantage too evident to escape even the careless Turks, if ever this harbour should resume its former importance.

The next place to be considered is the port of Souedia, (ancient Seleucia) constructed by Seleucus Nicator on a scale of grandeur more adapted to the state of modern commerce than that of the ancients. Its shape is that of an irregular oval, rather flat at the sides, which are nearly parallel to the sea; the outer one is rather less than 500 yards in length, and the inner about 450. The S.W. extremity is nearly 350 yards wide, and that of the N.W. (where the entrance was) scarcely 150. A high and thick wall of cut stone surrounds the whole of the basin, and remains still in a very good state, the foundation being perfect all round, and but a little of the higher part of this very extensive structure injured by

\* See observations on this subject, and a plan of Iskenderoon bay, at p. 31, by Captain Sir John Franklin, R.N.



time; so that it might be restored with much facility: the entrance was by a long channel of 350 yards, going obliquely to the sea in the direction of N.W. by W., so as to be completely sheltered not only by this circumstance, but also by an artificial mole run out on one side of the mouth, and still existing, almost entire. The passage from the sea to the basin was effected by cutting through a hill and high chain of rocks; but it is now entirely closed at the mouth by accumulated sand, and within by a wall across the mouth of the basin itself; which has been converted into gardens, and an accumulation thus produced of several feet deep of earth all over the interior of the basin.

Anxious to use some means to restore Aleppo to its former importance, Ali Pacha, now at Bagdad, and then its governor, submitted a plan to the Sultan some 10 or 12 months ago, the outline of which was to open the navigation of the Euphrates and clear out Seleucia: both were countenanced by the Porte, and something was about to be done, when the Egyptian business put all on one side for the present. Ali Pacha, who is a liberal and enlightened Turk, fond of Europeans and their customs, knew, that so late as the time of Saladin, the port of Bir contained 300 or 400 small vessels, and, without any further knowledge of the state of the river, he built on this circumstance alone the hope, that by restoring the ancient port of Souedia, he would attract a great commerce to Aleppo, not only from the East, but also from the West. The engineer's estimate of the necessary expense in restoring the whole of Seleucia was 5,000 purses of 500 piastres each, or about £31,000; but as the whole space could not be required, at least for many years, it was only intended to clear out a part at first, expending in this way about £10,000; and as the officer who framed those estimates is both skilful and much accustomed to carry on works in Turkey, it is more than probable that both of his calculations are very close to the truth; nor can there be any reasonable doubt as to the success, if ever the day should arrive for putting them to the test of experience. It is true, that the project was entertained solely with the view of increasing the Sultan's revenue; and although no more enlightened idea is entertained, it is a great matter to know that the Porte, even from selfish motives, would be induced to undertake a work likely to be most advantageous to the commercial world, by re-opening a port sufficiently capacious to accommodate quite a fleet of moderate-sized merchant vessels, and that, at the short distance of 22 or 24 caravan hours (through Antioch) to Aleppo; which project, under such circumstances, must realize more than all the present expectations of the Porte.

The fourth situation to be considered is the mouth of the Orontes; which is about three hours S.W. of Seleucia. This river is of considerable size and depth, but making a most tortuous course, at a slow rate, along the valley of the Orontes and subse-



quent plain; it is very muddy, and free from any other obstructions than those occasioned by the mill-dams, fish-weirs, and three bridges with rather narrow arches; at the mouth, however, there is, as might be expected, a bar, with a depth of water of only four or five feet during the low periods of the river: this bar is only a few feet wide, and as there is a depth of eight or nine feet within it at the lowest season, and that for some distance, its removal would make the little harbour of Souedia, (which is a few miles from its mouth,) always available for vessels drawing eight feet water, whereas they can only enter it at present during the flooded season of the river, when there is a depth of eight and nine feet water over the bar itself, with more inside; and as the flooding takes place during the latter end of Spring and beginning of Summer; the Orontes might be used during most, if not all of the unhealthy period at Scanderoun. The mouth of the Orontes is the nearest point on the Mediterranean to Aleppo, being about 21 or 22 hours over a level country; which circumstance may be a temptation, some day or other, to clear away the bar, and establish a better port; nor is it impossible that the time may come when a canal shall be cut so as to connect the Euphrates itself with the Orontes, and thus have water communication all the way from the Persian Gulf to the Mediterranean. There are still remaining the vestiges of an aqueduct from the upper part of the river to ancient Aleppo, which proves that the ground is level thus far; and it is so onwards to the Euphrates at Giaber and Racca. The whole distance from river to river, is considered to be about 20 caravan hours, which, at three and a third English miles each, would give about 67 miles; and it is calculated that each mile of a canal seven yards wide, and six or seven yards deep, (according to the level) could be excavated for about £3,600; therefore the whole cost of such a canal (independent of two locks) would be about £240,000; an expense which would appear very trifling if the Euphrates should ever become the channel of extensive commerce, which might thus have a water-carriage all the way; since, by merely enlarging one arch in each bridge, and opening a passage through the wooden fish-dams, the Orontes would serve, at all times, for small steamers from the point of the canal junction to the sea.

But this question and that of clearing out Seleucia are future contingencies, merely glanced at to shew the great capabilities of this part of the country, the more immediate object being a safe harbour for a steamer; and this may (I conceive) be had either at Scanderoun or Lattaquia; the former has a shorter and better road to Aleppo, with the single disadvantage of sickness; and if this really can be avoided (for the few days it would be necessary for the steamer to remain there) by anchoring on the opposite side of the bay, this port would answer every purpose: but if this pre-



caution should fail in preserving her from sickness, there is still the resource of Lattaquia, which port would perfectly suit a steamer, even as it is just now; it is, however, a good deal farther from Aleppo, with several hours' mountain road, only passable with horses or mules, whereas carriages may be used all the way from the other ports; and also (with a little preparation) from the mouth of the Orontes. Each of the preceding routes would centre, as a matter of course, in Aleppo, from whence it is rather more than 25 hours to Bir on the Euphrates, over a country perfectly level and fit for carriages. From Scanderoun to Bir it is 50 caravan hours, which would be accomplished with the country horses in four days; and in case of established relays at four different places, it might be done in 25 or 27 hours of continued travelling.

Bir is not well suited for the station of the steamer; it is on the left bank, and of course inconvenient on account of the crossing; added to which, there is no suitable place for the vessel to lie; and if one must be made, it had better be on the right bank; so that the mails, &c. could be landed, and despatched at once.

I had an opportunity of examining Romkala\* and several other places on that part of the river, but the result was quite in favour of a spot on the opposite side, and two miles lower than Bir; where the station would be near enough to get supplies from the town, with ground well suited for the harbour of the vessel, and a level country onwards; at the spot in question an excavation for the steamer, with two or three sleeping-rooms, enclosed with a substantial wall, would serve every purpose during the short time that it would be considered merely as an experiment of the disposition of the Arabs.

Lower down the river, at Giaber, the distance and time to Aleppo would be somewhat shorter; but by this route, the ill-disposed Arab tribe of Feidan or Feidau must be passed; whose chief, Abdallah Ebn Haddan, stopt a caravan only a few weeks ago, and levied 200,000 piastres from it; therefore it is desirable, in the commencement, to avoid this part of the country, by going higher up, although it would consume at least one day more going to Bir, with the additional disadvantage of passing another bad tribe, El Weldah, who occupy the banks, and endeavour to levy tribute on all passing boats. But, independent of the probability of coming to a permanent arrangement with this chief, it is quite certain that an armed steamer could force her way easily, at all times, up to Bir, which is a good way above those Arabs; whereas, by landing at Giaber, they must be passed on horseback in a comparatively defenceless state.

These and other considerations, give me the firmest possible belief, that it would be highly injudicious, and even imprudent, to

\* Above Bir.



make any farther attempt to explore the river, because I am persuaded that a steam vessel, when navigating the Euphrates, and seen by all, will not only cause less suspicion, and give less alarm, but be infinitely less exposed to danger than any individual attempt, under the most favourable circumstances, could possibly be. We already know the difficult passages, particularly that of Karabla, just above Anna, which is laid down on the map; and this being the worst on the river, according to the universal testimony of all the boatmen, if it can be passed, we may feel at ease about the others, trusting to time for that more perfect knowledge which is only to be gained by practical experience; and, therefore, the sooner it begins the better; taking those precautions which will be in our power, when commencing an undertaking sanctioned by the Sultan, and warmly supported by such a man as Ali Pacha; who, in a letter written a few weeks ago to a friend in Aleppo, and after touching upon what he had done in Bagdad, concludes by saying—"I have still two things at heart to be done, the opening of the Euphrates, and the civilization of the Arabs."

The latter, we may rest assured, would be the consequence of the former, since ignorance never exists long where commerce has taken root, and, once fairly commenced, it will gradually increase of itself, and overcome all difficulties.

"The recent accounts just collected, as well as the previous ones, all agree in describing that portion of the river between Bir and the impediments, as being such as it appeared to me, viz. deep and rather sleepy; the people of Bir having corroborated the former accounts, by saying that boats do not meet serious obstructions short of the ledges of rocks near Anna; but that ordinary commerce has ceased for some years, owing to the exactions of the Weldah tribe: the Sultan was the last to use the river, when sending guns and stores to Bagdad, some years ago.

As to the impediments themselves, I doubt whether any examination could prove with equal or more certainty, the practicability of passing them, than that criterion which has been my guide, viz. the size and width at bottom of the cumbrous boats dragged up and down through the rocks; therefore, if a steamer can be constructed of that size; and, if possible, with the paddles covered, she will certainly pass up to Bir in all states of the river; not without some care and trouble, it is true, during the lowest season: but both of these will cease altogether during eight months of the year, when the water is less or more swollen.

And if Bir may be thus reached at all times, such an object is worth almost any trouble, risk, and expense.

The Euphrates gives a water transport all the way to Bir, which is within a few hours of Aleppo, thus making an easy communication with Syria and its ports; also, by its higher portion, with Orfa, a large city, but eight hours from the river (at Samsat;) as



well as to Diarbekir, and the copper mines there, which are scarcely 50 hours from Malatiek, also to the silver mines (Argana Madau) close to the stream, and but a little way from Malatieh; from which place there is another extensive inlet, into the very heart of Asia Minor, along the Kara Sou or Tokmas (the ancient Melas,) which almost skirts both of the cities of Sivas and Kaiseric, and on which there are at present some boats, and a little traffic. The branches from the Euphrates are, Tigris; with its tributaries the two Zabs; the first is always navigable up to Bagdad, for small vessels, and, during much of the year, to Mosul and Diarbekir, whilst the two Zabs give a communication (for a time at least) with Betlis Suleimanich, and that part of the country: also shortening the distance to the southern parts of Persia, and in which direction there is a still better inlet along the Karoon from Mohammerah on the Euphrates, to the city of Shuster, and the foot of the mountains beyond: I sailed both up and down this noble stream, which has but one single impediment, the remains of the Bund at Ahwaz, where there is some difficulty at present, but this might easily be removed, being artificial.

From the preceding outline, it is pretty clear that the Euphrates gives a water communication with Syria, Asia Minor, and Asia Major, [their central parts] also the South of Persia, and Kurdistan; so that it only remains to give a sketch of the actual commerce and interchange between those countries, which is carried on almost exclusively by caravan; since the rivers in question are too rapid, for the general use of sailing craft; even if they could safely and freely pass the Arabs.

The Pachalic of Bagdad produces [and the greater part along the Euphrates] wheat, barley, Indian corn, rice, millet, honey, dates in great quantity, and other fruits, wine (from Kerkook, and the banks of the Tigris,) cotton, some silk, tobacco, gall-nuts, and wool in great quantity, from the different Arab tribes, each of which has extensive flocks; also ambergris, sal ammoniac, leather, buffalo hides, oil of naphtha, bitumen, salt-petre, salt, borax, and glass, made at Bagdad; where are manufactured coarse coloured cottons, and fine handkerchiefs, of silk and cotton, for the Arabs.

Bagdad was the centre of a considerable caravan commerce previous to the late disturbances, when it sent annually even as far as Erzeroum, 2,000 mule loads of pearls, silk, cotton, stuffs, shawls, coffee, gall-nuts, indigo, &c., and still more to Mosul, Diarbekir, Orfa, &c.; and to Aleppo, even at this moment, from 3 to 6,000 animals yearly: but 80 years ago, this number was said to be 50,000.

Bagdad, from its matchless situation, would, with the slightest fostering care, become a grand centre of English, Arab, Persian, and Eastern commerce; and nothing is wanting to distribute it



widely, and increase it greatly, but the establishment of steam; and the completion of Daoud Pacha's projected canal between the Tigris, near Bagdad, and the Euphrates opposite, near Macdam,—

The imports to Bagdad are from the Persian Gulf: Pearls and Fish.

From Persia: Silk, woollens (coarse,) saffron, sulphur, nitre, dried fruits, shawls of Cashmere, Kerman, and Yezd; stuffs, cotton, gum-rahabat, fur-skins, tobacco, and pipe-sticks.

From India: Muslins, porcelain, indigo from Bengal, Guzerat, and Lahor; cottons, pepper, spices, cinnamon, nutmegs, Java and other sugars; musk, cardamoms, cotton and silk from the coast of Caromandel, aloes, camphor, &c.

From Turkey: Soap, cotton, linen, silks, embroidered stuffs, opium, and copper, about 450 tons annually.

From Arabia: Incense, myrrh, galbanum, resins, gums, and other precious drugs; also Mocha coffee, in quantity across the Peninsula, to go on to Constantinople and elsewhere.

From Europe, Egypt, &c. (A part across the desert from Damascus, but chiefly by way of Aleppo.) Bagdad receives cotton twist, grey cloths and prints, grey calicos, long-cloths, Greek-stripes, power-loom sheetings, jaconets, cotton handkerchiefs, (all English;) fine French or German cloths; cutlery, lead, tin, and St. Domingo coffee; also indigo and cochineal, velvets, satins, taffetas, mercury, and drugs.

The chief outlets from Bagdad as a *depôt* are to Constantinople, Cachmere shawls, aloes, ambergris, musk, pearls, coffee, tobacco, spices, pipe-sticks, and Indian muslins.

To Syria and Anatolia: Are forwarded silk, tobacco, shawls, gall-nuts, coffee, stuffs, and drugs.

To Persia: Diamonds, rubies, emeralds, pearls, European stuffs brought over the Desert from Aleppo and Damascus; also Aleppo cloths, coral, paper, jewelry, cochineal and indigo.

To Arabia and India: Silver, gold, copper, dates, horses, and oil of naphtha, for painting.

Thus it appears that imports continue to a considerable extent, notwithstanding all the difficulties and distance by which they are transported with caravans; and as there are pretty ample returns, it is evident that if ever the noble stream should be used instead of a caravan transport, there will be an increase and consumption proportionate to the comparative cheapness of the supplies, and the great facilities offered of placing *depôts*, by water, at every convenient spot; this done, a few years will, most likely, see the Arab wants increased to something like those of other people; and in making larger purchases, they will discover how to reimburse the expense, by cultivating cotton, grain, wool, &c. more extensively than they now do; when their wants, and the limited commerce along the Euphrates, regulate the cultivation.







				Tons.			
Quantity of ballast necessary to bring her to her best trim		{	Iron	30			
			Shingle	—			
Quantity of water she then stows				80			
whereof is contained in iron tanks				74			
When stored for	{	Channel Service	{	Draught of water	Forward		
				Abaft			
		Height of Ports	Foremost				
			Midships				
	{	Foreign Service	{	Draught of water	Forward	15	11
				Abaft	17	8	
			Height of Ports	Foremost	7	4½	
				Midships	6	2½	
				Aftermost	6	6½	
				No. Poundsers.			

How armed . . .	On the lower deck	Guns		
		Carronades		
	— Middle deck	Guns		
		Carronades		
	— Main deck	Guns	18	32 of 40 cwt.
		Carronades	—	—
	— Quarter deck	Guns	6	32 {gunnades
		Carronades	—	{ of 25 cwt.
	— Forecastle	Guns	2	12 long.
		Carronades	—	—
	— Roundhouse	Guns	—	—
		Carronades	—	—

Character of the ship after a trial of twelve months.

How does she stow her provisions?	Four months under hatches.			
Does she ride easy at her anchors?	Has not yet been tried in a heavy sea.			
How does she stand under her sails?	Very stiff.			
How does she carry her lee ports?	Well out of the water.			
Does she roll easy or uneasy in the trough of the sea?	Quick and deep, but very easy.			
Does she pitch easy?	Easy.			
Is she, generally speaking, an easy or an uneasy ship	Very easy.			
How does she in general carry her helm?	A little a-weather.			
How does she steer?	Remarkably well.			
How does she wear and stay?	Very quick.			
Is she weatherly or leewardly, compared with other ships?	Weatherly.			
How does she behave lying-to?	Exceedingly well.			
	Knots. Fath.			
She has run, per hour, by the log, with as much wind as she could safely bear	{ Close hauled {	Under whole or single-reefed top-sails and topgallant sails	10	2
		Under double-reefed topsails	9	6
		Under courses	—	—
		Large, under all sail that could with propriety be set	13	6
		Before the wind, under similar circumstances	11	0
What is her best point of sailing?	Two points abaft the beam, or on the quarter.			
Comparative rate of sailing with other ships?	Superior to all which have been tried, on every point of sailing.			
Is she, generally speaking, a well-built and strong ship, or does she, on the contrary, shew any unusual symptoms of weakness?	Well built, and very strong.			



Remarks, stating the grounds of such of the present answers as differ from those in last report, and any other observations tending to form an accurate judgment of the qualities of the ship:

*The above statement is founded on trials of sailing with the Endymion, Forte, Challenger, Sapphire, Wasp, and Victor. The most remarkable superiority of the Vestal over them all was off the wind, which seems to be her best point; close hauled, she weathered and fore-reached on them all. Her weakest point is in light winds, against a head-sea; but even then, in that she is superior to other vessels. Since the last report she has beaten the Racer sloop, very remarkably, in light winds, and the Belvidera and Sapphire in separate trials, by the wind, blowing fresh. She also proved herself, in a gale of wind, with a heavy sea off Bermuda, to be the best sea-boat, and most easy and weatherly ship that any officer on board had ever seen.*

(Copy.)

Signed, W. JONES, Captain.  
JOHN GALE, Master.  
SAMUEL HOAR, Carpenter.

*The following are Extracts from private Letters.*

THE PIQUE, 36 guns.

"April, 1835.

"We began by the Castor having the best of it, but we turned the tables as soon as we got to two feet: latterly we had a great superiority over her in a heavy head-sea blowing strong; and I must say, the Pique is the most magnificent ship in a gale of wind I ever saw: in light winds she has no superiority, simply because she spreads no canvass in proportion to her bulk; but against a heavy sea, when blowing hard, she can weather all the old style of ships.

"Ringdove beat Castor every day blowing hard, or in moderate weather. She is the best brig I have ever seen. Symond's vessels are like cutters; bring them to any thing like an even keel, and they bury themselves; but in trim there is nothing like them, they have every good quality.

"We have experienced very bad weather in the last two months, and blockaded Castor in Santander eleven days before she could get out, owing to the heavy sea setting in on the coast. I intend to leave twenty-two tons of ballast. Pique ought to carry fourth-rate's masts. She can bury all those foolish 52-gun ships.

"H. J. Rous, Captain."

THE VERNON, 50 guns.

"H.M.S. Vernon, 17th Feb. 1835.

"It affords me very great pleasure in communicating to you the pleasing intelligence of Vernon's sailing with the Squadron, which consists of the following ships: Caledonia (flag) Edinburgh, Canopus, Revenge, Malabar, Thunderer, Vernon, Endymion, Tribune, Childers, and Medea, steamer. Every day, from Malta to this anchorage the signal was made to try our rate of sailing, sometimes with the whole fleet, and sometimes with particular ships; and, to the astonishment and admiration of every body,—every individual in the squadron,—the Vernon has walked away from them



as if they were a set of merchant ships. I have had every opportunity of trying her with them both by the wind and going large. The whole of the captains dined with the commander-in-chief yesterday; there was not one dissenting voice among them in saying to me, 'the manner in which you left us astern was *more* like *magic* than any thing else;' nor could they have believed it, unless they had seen it, that one man of war was able to beat another so much as the Vernon has beaten them all. I really never saw the like before.

"J. M'KERRIE, Captain."

*Extract from another letter.*

"H. M. S. Vernon.\*

"The Vernon, that you must see so much about in all the papers, has acquitted herself in glorious style. I never thought ship-building could be brought to such perfection. We can fight either side, let it blow as hard as it likes; and as to sailing, we astonished the whole fleet, which we beat in prime style, always leaving the fastest of them six or seven miles astern in six hours. The Caledonia, that we thought sailed very fairly when with the fleet, we run out of sight in seven hours on any point."

THE PANDORA, *Packet*.

Falmouth, April 14th 1835.

"The Pandora travels on as usual. We sailed from Falmouth in company with the Espoir, distant about a cable's length when

\* "The Vernon, 50, *Pique*, 36, and *Ringdove*, 18.—These three vessels, built by the present Surveyor of the Navy, upon a system altogether novel, having attracted much attention, we are enabled to give our readers the result of recent trials, in which their merits have been pretty well ascertained. The following are extracted from letters received this week:—

"*Vourla Bay*, Feb. 19.—In my next I will give you the particulars of the rate of sailing coming up from Malta, (to Vourla,) in company with the flying Vernon, which beats every ship, both large and small, out and out, on every point.

"*Spithead* April 3.—The *Pique* arrived here on Tuesday from the north coast of Spain. She has been absent from Plymouth Sound fifty-three days, of which she was at sea forty-one, where she had an opportunity of trying her rate of sailing with those of the *Castor* and *Ringdove*, in the Bay of Biscay. On the first day's trial the last named vessel manifested considerable advantages over the *Pique* and *Castor*, while neither of these could pretend to any success over their competitor. A great alteration, however, was apparent on a second trial, a few days after. The *Pique's* trim having been meanwhile corrected, she then decidedly beat the *Castor*, sailing against a heavy head-sea in the Bay of Biscay, where she (the *Pique*) carried away two jib-booms, and split several of her sails. The captain and other officers speak of her in the highest terms of commendation, and express a confident expectation that, with a small alteration in the quantity of her ballast and sail, she will realize the best wishes of her constructor.

"*H. M. S. Ringdove*, March 22.—We put to sea from Santander on the 3rd of March with *Castor*, and joined the *Pique* on the outside. On the 4th commenced the trial cruise, and I am happy to say the *Ringdove* has proved herself one of the fastest vessels afloat—she behaved beautifully, and carried a heavy press of canvass against a head-sea, as long as the frigate's, always preserving a decided superiority. The *Pique* sailed under every disadvantage, being a newly fitted ship, and had been fairly blockading Santander for 12 days in the most severe weather.—We had a very boisterous time at sea."—*Devonport Telegraph*, April 4.



we started ; the wind dead on end, very moderate. In about four hours it was impossible, without a glass, to say what she was. We had then strong westerly gales, but, notwithstanding, we arrived at Madeira, in one day less than Espoir did at Lisbon, and one of our passengers wrote to his house at Liverpool, to say that Pandora did wonders ; after leaving Madeira, our passage was with light and unfavourable winds, and with the exception of the last ten days our homeward passage was the same ; we have, however, arrived *eighteen days before ' due.'*

" I am satisfied that all nations up the date of Capt. Symonds plan, have been at a loss in the construction of flush vessels, for they have all been unsafe ; I do not except one, from the 700 tons corvette, to the clipper schooner of 10 tons ; all I say, unless under certain management, and there are few persons who will take the trouble, granting that they know how to manage deep-waisted craft, and that is granting much : I appeal to the Americans, who do know something about it, whether their large corvettes are not most unsafe ; and, what is more, they don't sail, and this they will frankly tell you. It would be very easy to shew a frightful list of flush vessels of all nations, that have foundered, or at least have been missing ; one half of them might well be called fighting-rafts, not ships to sail or stand up under canvas. I sincerely hope that the depth and breadth Capt. Symonds has given them will remedy all this, and, if more than twenty years of experience in such vessels is worth anything, I most humbly think it will. A vessel with great breadth of beam will appear to have much more motion than a narrow vessel ; and so they have, but it is of such a different kind that no harm to masts, or yards, or rigging, will come out of it : so I think it will be better to point a gun in the broad vessel ; the motion of a narrow one is indolent, if I may use the term, that of the contrary, lively, the one always nobly water-borne, the other dragging her side along like a wounded fish or snake.—W. P. CROKE, *Lt. Commander.*"

#### THE GULNARE, *Steam-vessel.*

" H. M. Packet, Gulnare, Holyhead, 10th April, 1835.

" Having observed the gross and unprincipled attacks that have been made on Captain Symonds, the present Surveyor of the Navy, I think it a duty to bear my humble testimony in favour of the practical success of his plans, in so far as I have had an opportunity of judging by the experience of one year in the command of a steam-vessel built under his orders.

" I can come forward with the less hesitation to testify in favour of his professional principles, as I have not the honour of any further acquaintance with him than what three or four casual interviews on service may be supposed to produce.

" I can, therefore, safely assert, that during the twelve months H. M. packet under my command has been in commission, it has



been fully proved that in all weathers she has shewn great superiority. I have, during that period, made good a distance of 15,000 miles in her, and have gone through every variety of weather. I have found her an admirable sea boat, very stiff under canvas, very little inclined to roll, and with hardly any of that tremulous motion felt in other steamers, and which is so distressing to passengers; she has shipped but one sea since she was built. With a considerable disproportion of power against her, compared with other vessels of her class, (one-third,) she is as fast in moderate weather, and faster and drier under bad weather, than they are.

"Some days ago, I gave a regular drubbing to one of our Liverpool post-office packets. He sailed before me, and got a start of about two miles, but I overhauled him, and in *two hours and a half* ran him out of sight. He measures *three hundred tons*, and has *two seventy-five horse-power engines*; but I could use the *dimity*; and right well does Gulnare go, when she has on her drapery. On the 7th March, we had one of the most tremendous gales (from north) ever known here, and I beat the best of the others three-quarters of an hour in the sixty miles; wind a-beam, and vessel as stiff as a rock.

"The parties who, from jealousy or disappointment, or worse motives, choose to impugn the propriety of having a practical man at the head of the department, only rave at the loss of an opportunity of shewing their extreme ignorance. The plan of having *scientific* builders wast ried long enough, previously to his appointment; and with what success, those officers who *served* during the war are well able say. The navy had enough of their 'affectionate friends.' Out of all the science of all the dock-yards, we had not one decent vessel, the draught of which was purely British. All our best ships were built for us by our enemies. The Spanish first-rates, the French two-deckers and frigates, were superior to any thing moulded by the *scientific* of those days, except the few built by Barrallier. Our *scientific* men could not even copy those fine ships; and in one instance, (San Josef,) they could not venture to build a copy, but pulled that noble ship to pieces, and cobbled her up again, bit by bit. All the drawings of all the *scientific* quacks that ever spoiled good timber, never produced any thing to be compared with that magnificent man-of-war.

"Those writers and talkers who have attacked so shamelessly the appointment of a practical seaman, (endowed with a *natural genius* for ship-building,) have been very witty on the subject of 'intuition;' but I would remind those persons, that thirty or forty years of practical *use* of ships and vessels of all sizes, shapes, rig, &c., and in all sorts of weather, including the command in a few gales of wind, ought to entitle a man to judge of the qualities of forms, quite as well as the man of scale and compass, who has never seen a greater wave than that which breaks at the muddy



base of his dock-yard wall. I should like to ask these 'regularly instructed' people where was the *science* that built the French and American privateers during the war; or our Dover and Folkstone smugglers? What *science* have the dark-complexioned carpenters of Bermuda, or the woolly-headed constructors of the West Indian ballahou?—and which is the model of an English man-of-war that could catch them? Besides, these *facciosos* adopt, gratuitously, the false supposition of their own begetting—first, that because a man is a practical seaman, and has a knowledge of the uses of a ship, he is for ever debarred thereby from using his faculties in the acquirement of scientific details; and secondly, that he cannot avail himself of the valuable assistance *I know* he has at his elbow.

"I have only to add, sir, that I shall at all times be happy to state such facts respecting this vessel as are founded on my experience, and that you are welcome to make what use you may think proper of these few observations.

"Your obedient humble servant,  
"GEO. E. DAVIS, Master."

#### IV.—PADDLE-WHEELS OF STEAM-BOATS.

*To the Editor of the Nautical Magazine.*

London, 9th February, 1834.

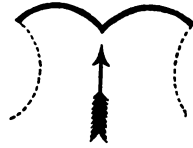
SIR,—As a reader of your magazine, I have observed the notice of Mr. Symington's wheel, and the modest reply of Mr. Morgan, concerning the respective merits of their inventions, or improvements, on the paddle-wheel, as applied for the propulsion of steam-boats.

Agreeing with the latter, that your object is the "promotion of science," and not the furtherance of individual interest, I have presumed to address you, to offer a few observations on late inventions, and most particularly on that of Morgan, meaning to supply a few experimental facts and hints from practical experience.

Morgan's are the only wheels that have stood the test of practice for any considerable time; all the others are, or were, proved very pretty play-things. Among others which have come under my observation, I may mention those of Lieut. Skene, tried on the "Sons of Commerce" in 1827, and which scarcely propelled the vessel against the tide, and none, save the inventor, had the most distant idea they would ever answer. Those of Stevens, tried about the same time, the plan something different, entirely failed. Those of Mr. Carter, tried on the Carron in 1832, and which I believe were proved to his *own* satisfaction, (something new, you will allow,) never could be brought into practice, nay, the very theory was bad, although they *could not* lift any *backwater*.



His paddle was formed by two segments, and, by a mechanical arrangement, they collapsed and separated *gradually* from entering the water, until they reached the maximum point, or vertical position, thence opening as they came out, and turning their planes parallel to the side of the vessel. Thus, only at one instant could a full effect be produced, at only one point, when the paddle is vertical, the effect immediately and materially decreasing; and so it was found, by a diminution of the vessel's speed, which arose from a lessened resistance to the power of the engines; consequently much power was lost, and resources wasted.



Symington's wheel I did not see complete, and therefore cannot speak so confidently of it as of the others; but I have had a report of it from a scientific person very capable, both from experience and situation, so to do. In his case, (that of the Alban,) an excellent opportunity was offered, (the only one I know of,) of judging of the merits and demerits of the invention, by only *one* wheel being fitted, (the starboard,) the larboard being the original common wheel.

The principle of this wheel was inferior.\* You, sir, must be perfectly aware, that sudden changes of position, or collision, in heavy machinery, never will answer, and this change (something similar to Carter's) was produced by a *curve* or projection striking on a fixed point, and altering the position of the paddle. I have not heard, whether the different effects of the two wheels had any result on the helm; I should suppose such must have been the case; but I can positively state, that the shake and tremor throughout the vessel and engines was truly alarming. The opposite wheel, on the good old plan, worked well.

Thus, if "success is the criterion of merit," Symington has none; for My Lords Commissioners of the Admiralty had actually issued their order for the removal of his improvements, previous to the publication of your December number; containing a paragraph, stating the plan had succeeded,† to the satisfaction of the inventor, and all others concerned.

I may here mention a very ingenious (see *Buchanan*) application of this sort, tried on the Clyde in 1814, and which, as it regards theory, was calculated to raise the expectations of the patentee to concert pitch, a prospect of no *backwater*, and each portion of the wheel *bore its own strain*. The expense, though

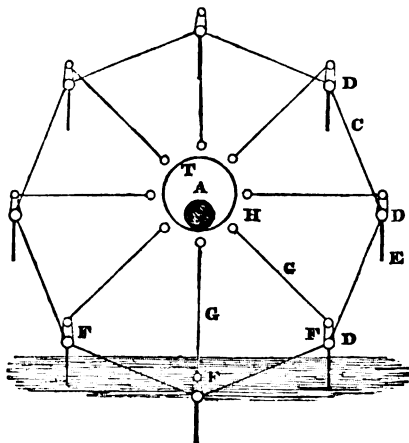
\* Has our correspondent received the prospectus of the company forming for forwarding this invention? It is there highly spoken of; the objections to which he alludes having been overcome.

† We believe this to have been true, as far as could be expected from a *first* experiment. Few inventions succeed on the first trial.



great, compared with the common wheel, was small in reference to inventions of the present day. It was constructed thus:—

A, shafts of engine, with arms and rings C, in which the centres of the floats D were fixed; the spindles have cranks F at the inner end, connected with arms or rods. Rods G, fixed to a circle H, turning round on another circle T, fixed eccentric to the shaft. Here, then, we had "perfection," the paddles at all points in a vertical position, and, agreeably to the present idea, no backwater could be raised. But they were disappointed; such was the case, though certainly not to so great an extent; the velocity of the vessel was not sensibly increased, though the *expense* was materially, and consequently it was pronounced a failure in practice from that cause only.



I think schemers generally err in not fully considering the effects produced by the common wheel, but imagine it a *circle* revolving on a fixed centre, and do not take into consideration the velocity of the boat, and the figure formed by the paddles in the water, or they would not throw away their valuable time and property, to effect that which, at the best, is but a small improvement.

Mr. P. W. Barlow having in his valuable and scientific paper given the path of a wheel, I need not say much in explanation, but observe, that I should not think it was taken from actual experiment, as the performance is bad, more so than any I ever saw.

I have the pleasure to inclose you one, which will prove, that, with a judicious arrangement, every effect may be produced: the diameter of the wheel is 15·6—25 turns per minute; velocity about 10·5 miles. The position of the paddles is shewn, each one-twentieth of a second of time.

## No. 1.

*Path of the Common Wheel, from actual experiment.*

C—Centre of Shaft.

W W—Load-water-line.

## No. 2.

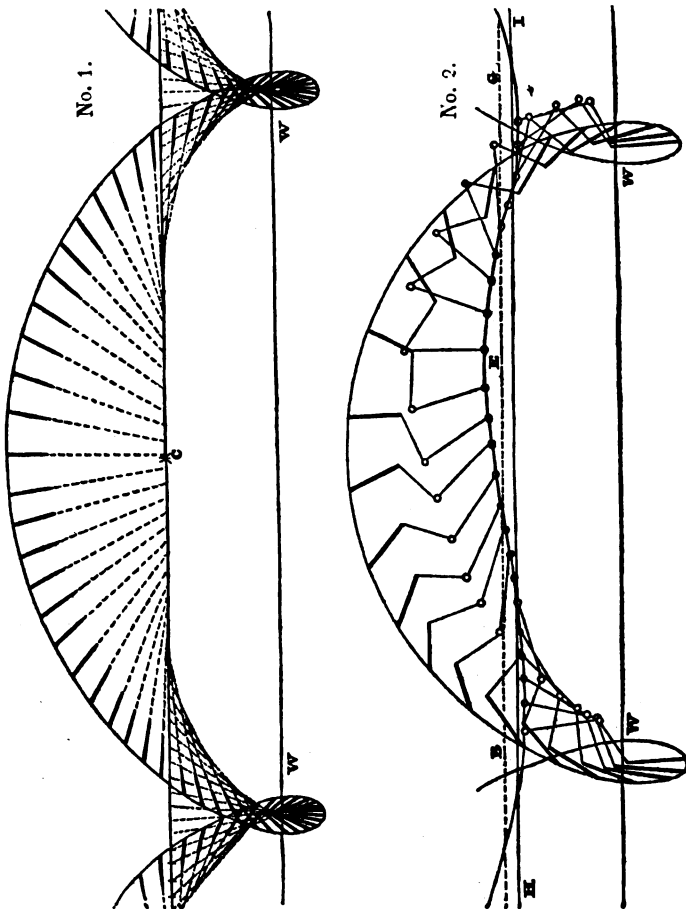
*Path of Morgan's Wheel, from actual experiment.*

B E G—Centre of Eccentric.

H I—Centre of Engine Shaft.

W W—Load-water line.





With regard to *back-water*, is it so decided an objection as generally supposed? fancy it a “breast” water wheel, the water acting on the paddle, were the axis not fixed, it would immediately be driven from it with great force; in like manner is a vessel propelled by this very water. I will allow it has a minimum effect, but it is not an absolute loss. Whether in a common or patent wheel, where there is a difference of velocity between the inner and outer edges of the paddles, water must inevitably be



raised, nay, even in a vertical paddle, water not being a solid medium, it will give way to the pressure, and a heaping up of the fluid must be the consequence, the velocity of it being less than that of the paddles. I have detected some amusing errors as to the speed of various steamers; on ascertaining the diameter of the inner edges of the paddles and revolutions per minute, have found that the velocity of the vessel was a mile or so *more* than that of the wheel, an infallible test, most will allow.

Compare the properties of the new and old wheels, say a power of 120 horses :—

#### *Old.*

1. Comparative cheapness, cost complete—shafts, arms, rings, centres, pins, and nuts, and wooden paddle-boards—about £700.
2. Durability. If the arms are riveted to rings, &c., they will last seven to eight years—have lasted ten.
3. Simplicity, and not liable to disarrangement.

#### *New.*

1. Cost, as above, at least £1,500.
2. From the construction, they cannot be durable; the number of joints and movements, and the friction, soon destroys the brasses. The Flamer left here in Oct. 1832, and was remodelled and repaired at a great expense in less than two years.
3. Complicated. If one rad. rod gives way, the wheel is useless.

With regard to Mr. Morgan's wheel, after Mr. Barlow's paper, it is unnecessary to say much as to their "principle," for he very satisfactorily proves that the advantage is very small, and that only at great immersions, and where there is a constant variation in the dip; therefore these wheels never can effectively be brought into use for river navigation, where the dip is small, and draught of water invariable; and indeed, with all deference, I am inclined to doubt even that asserted advantage. If we examine it as a mechanical production, it is very faulty, from the circumstance of the division of shaft, the outer portion being a fixture, *and the whole strain and power having to pass through the inner arms*, and consequently very liable to twist, which is only prevented by diagonal braces, which renders the wheel very heavy. The paddle-wheel is shaped very deep at the ship's side, so as to reduce the strain on the outer frame; but this is very bad, for it has been proved that *the further the paddle is from the side of the vessel, the better the performance.*

A friend once shewed me a diagram of one of the above wheels, which so much pleased me, that I set to work, and beg to enclose the result of my labour; compare the two systems; for they are comparative, and tell me where is the great advantage?

I will concisely bring under your notice a few experiments made on vessels with the common and the patent wheels, by which it will be seen, whether the *speed* is much increased, or performance



improved by their application, take the under-mentioned vessels which, with a host of others, might be quoted.

	Name.	H. Power	Strokes.	Coals.	Draft.	Seconds.	Velocity	Ratio of Performance
Patent . .	Flamer . .	120.	24.	Cwt. 9.75	11.0	203	9.53	1560.
Common . .	Soho . . . .	120.	28.	8.	10.1	190½	10.03	1602.
Ditto . .	R. George . .	120.	24.	16.5	5.6¾	115½	11.0	1280.
Ditto . .	Monarch . .	200.	22½.	20.0	12.4	301½	11.02	2016.

Having been allowed, by the kindness of a friend, to attend a number of experiments, I can vouch for the accuracy of the above, and the results, I fancy, prove in two cases that the common wheels give the greatest comparative velocity or performance; we could not have a better opportunity than the Soho and Flamer, the engines being the same in every particular; and those who know the two vessels, that the advantage as to model is decidedly on the part of the latter, they will readily allow; yet she is inferior, or as 1560 to 1602. Both vessels had their stores, &c. on board, ready for the voyage. The comparison with the Monarch is immeasurably inferior, viz. 2016. The George is below, as indeed are all those light craft with large powers. These, and other experiments of a like result, have convinced me that no benefit arises from the application of Morgan's wheels; and I have shewn that, in a pecuniary point of view, they are failures.

In conclusion, perhaps I may be allowed to call Mr. Barlow's attention to a few slight errors in his paper, which have, no doubt, accidentally crept in.

In Table I. he is wrong, in stating that the Alban's full power is 30 strokes; all 3ft. 6. strokes work most effectively at 27; 4 feet at 25; 4ft. 6. at 23; and so on, in proportion. The Flamer, Firebrand, Medea, Dee, &c. are all erroneous in this respect. The power of the Monarch is 200, not 220; and her velocity at 11.02 miles was not with any additional weight on safety valve, but obtained on 24 December, 1833, at the end of the season, when the friction of the engine was small, and the wheels were  $20.0 \times 10.0 \times 2.6$ , and dipping 2ft. 4½. On the 25th of February, 1834, after the winter's lay-by, an experiment was made with a wheel of  $21.0 \times 10.0 \times 2.0$ , dipping 2ft. 10½, and the velocity got was 10.647, and with additional weight on valves 10.85 miles, the strokes 20½ and 21 respectively. Which proves his theory, p. 224, that a wheel may be too large. It is but fair to add, though, that the friction was much greater in the latter than former instance, and which we have no means of measuring.

In Table II. it is unfair to compare the Medea's velocity at 11.33 to the Monarch as 11.02, as the former was *very* light, and



had only 20 tons of coals, whereas the latter had her stores and furniture, and upwards of 100 tons of coals on board at the time, and drawing 12 feet 4 inches. A second experiment with the *Medea*, at her load draft, gave, I believe, a much lower velocity, somewhere about 10 miles.

In page 222, last paragraph of Observations on Beaufoy, he says—"which proves that engines work above their nominal power."

A fact so generally known requires no such proof; were it not the case, we should have no superiority in engines; all would be alike, if the diameter of cylinder and length of stroke was the only criterion. I know of no profession in which a greater opportunity offers, than is possessed by an ingenious steam engineer "to do the public." His engine shall have a full-sized cylinder, and travel its maximum speed, yet its performance may be very bad; his vacuum good 28, and yet the mean pressure on the piston be very low; by *expansion*, that all-powerful panacea for an inefficient boiler, he shall be enabled to do wonders as to the consumption of coals, which many look upon as conclusive evidence of excellence, without regard to the work done. By that beautiful instrument, the indicator, we are enabled to detect those blemishes, and bestow praise where due; as an example, I will give some experiments on the two plans, expansive and non-expansive. Most know that the *nominal* or *assumed* pressure for calculation is 7 lbs. per inch, but that from 10 to 16½ is obtained according to the excellence of the engine, or principle of construction.

1. *Expansive*, by a celebrated maker. Engines called two twenty-fives, cylinder 29½, 3 feet strokes, 30 per minute, at 7 lbs., nominal power 26 horses, actual mean pressure by experiment 11.44 lbs. minus the usual allowance for friction, leaves an effective power of 41 horses, or about 60 per cent. above nominal power.

2. *Non-expansive*, made in the west of Scotland, cylinder 42½, 4.0 strokes, 25 per minute, nominal power at 7 lbs. 61 horse; actual mean pressure 15.64 lbs. per square inch, minus friction at 24 strokes, (actual speed,) leaves an effective power of 121 horses, or nearly 100 per cent. above nominal or assumed power.

3. Again; one 50-horse, 1829, cylinder 39½, 3.5×27, safety valve loaded to 5 lbs. vacuum 28.8, 28½ strokes, mean pressure steam 3.77, vacuum 12.34=16.11 minus friction, leaves an effective power of 104 horse-power, or 108 per cent. above nominal power: coals consumed, 6.06 lbs. per actual horse per hour.

But this has been excelled, and that was in a Gravesend boat, two-twentys, cylinder 26½×2.6, strokes 34 per minute, safety valve 3½. Mean pressure was, steam 2.23,—vacuum 14.09=16.32, minus friction, leaves an effective power of 43 horses, or about 115 per cent. The coals used were 5.5 lbs. per actual horse per hour.



And these are the reasons why I doubt the accuracy of the experiments made on Morgan's wheels, because reference has not been made to this very important point, viz. the *actual* power exerted at the time of trial.

I have the honour to be, Sir, with great respect,  
Your obedient Servant,

HIRAM.

P.S. Since the foregoing was written, I have understood that no trials were made with the "Medea" at her load draft, with full complement of coals, &c.: but take her velocity of 11.33; draft 10.5 fore, and 11.6 aft; a section about 269 feet: her ratio of performance is below the Monarch's, or as 87 to 100.

The latter's ratio to her *actual* power is 1067; the surface brought into action per minute 9·900 square feet, or 99 feet of paddle each horse. The difference between the circumferential velocities of the inner and outer edges of paddles only 4 miles; that of the inner only 85 above the speed of the vessel; consequently the performance good, and loss of power small. H.

#### V.—ADVENTURES ON SHORE AND AFLOAT.

##### NO. 2. "FOUND! FOUND! FOUND! OR, THE CARPENTER'S SAW."

How men differ in temper! some people we find  
Who privations endure with an equable mind;  
While others, susceptible, sulky, and cross,  
Are annoy'd and distress'd by each frivolous loss;  
These, if robb'd of a pocket-book, pencil-case, knife,  
A pointer, a pony, a gun, or a wife,  
Run about here and there, all emotion and pain,  
Nor relax their pursuit till they find them again.  
While some seem to care not a pin for the matter,  
Especially when what they lose is—the latter!  
Of a loss, when about to compute the amount,  
Value, true or supposed, must be had in account:  
'Tis the pleasure we take in a thing, or its use,  
That regret for its want, in the mind must produce.  
We may pardon complaints made for real privation,  
But in grief, as in wrath, we advise moderation.  
Nor should men too soon deem chattels lost, for the case is,  
They are oft found in most unaccountable places.  
To this fact I beg your attention to draw,  
While I sing where the carpenter found his lost saw:—  
Captain Truck, who at Nevis his cabin-boy lost,  
To replace him, an African bought at small cost.  
Aught more black than his skin I'd defy you to find,  
Yet no snow was more pure than his innocent mind;



He was candour personified, hated disguise,  
And good-nature beam'd from his two laughing eyes.  
He was foremost in all feats of juvenile fun ;  
Like a squirrel from yardarm to yardarm would run,  
And, on deck, cut more capers in one month than Sutton,  
The cook, cut in twelve, to make sauce for boil'd mutton.  
He had no dread of tempests, and, what's more than that,  
He had no fear of the boatswain, or yet of the cat,  
Not the puss who prevents rats from damaging sails,  
But a certain most terrible cat with nine tails !  
For the light-hearted Sambo, all felt great regard,  
Save one being, by nature so rugged and hard,  
That a good-natured syllable ne'er pass'd his lips :  
'Twas the grumpy old carpenter, Timothy Chips.  
As all men have their failings, whatever their race,  
Be they yellow, brown, red, white, or black, in the face,  
So had Sambo his share ; though he never got drunk, he  
Was prone to play mischievous tricks as a monkey :  
Was a sad busy-body—all trades chose to try ;  
Lik'd to have his black finger in every pie ;  
And no boat from the vessel was e'er sent on shore  
Into which he was not sure to shove in his oar.  
Sambo's most fav'rite pastime was playing the wright,  
He would saw, chop, and plane boards from morning till night ;  
This the carpenter lik'd not, oft angry would wax,  
Throwing out hints more broad than the broadest broad axe.  
But he threw them away, since the mischievous pup  
Never thought fit to stoop down such things to pick up.  
Such delight the young rogue took in carpenterizing,  
That the mandates of chips he still went on despising.  
But at length o'er his head burst a sad thunder-cloud,  
And to play with edg'd tools he was no more allow'd,  
Since the carpenter's saw being lost, sad to tell,  
His suspicion on Sambo immediately fell :  
For was not he constantly meddling and making ?  
Who but Sambo dar'd timber and tools to be taking ?  
'Twas in vain that the theft by the youth was disclaim'd,  
And that all the ship's crew thought him wrongfully blam'd,  
Chip still stuck to his text ; roaring out, in his fury,  
You deserve to be tuck'd up without judge or jury.  
Sambo hoped, when the carpenter's anger got cool,  
He should no more be blamed for the loss of the tool.  
But events far from answer'd the lad's expectation,  
For the carpenter held him in such execration,  
That his anger against him was constantly shown,  
While he gave him looks almost as black as his own :  
But one day he roar'd out, staring him in the phiz hard,  
Ah ! that saw, you young rascal, still *sticks in my gizzard !*



Upon this, off runs Sambo : he never mov'd faster,  
 And into the cabin he flies to his master ;  
 First before him quite breathless and speechless he stands,  
 From ear to ear grinning, and rubbing his hands,  
 Then keeps cap'ring, as if he had gone mad outright,  
 And was dancing to cure the Tarantula's bite.  
 How now, monkey ! what ails you ? the captain cried out,  
 That you thus round the table keep frisking about ?  
 What's the cause of these freaks, are you drunk ? are you mad ?  
 Me no crazy, no tipsy, me noting dat's bad,  
 But, ha ! ha ! me so happy ! he, he ! me so glad !  
 And then, like a top, on one leg spinning round,  
 He cried, Massa, he got 'em ; 'tis found, found, found !  
 Found ! What's found ? something strange it must be, I've a notion,  
 The philosopher's stone, or perpetual motion !  
 Or the longitude ?—tell me, you young Johnny Raw,  
 What is found ? Sir, em *Carpenman* find 'em him saw !  
 Say you so ? then I am not surprised at your joy,  
 Since the loss was imputed to you, my poor boy.  
 But be easy, you monkey ; cease playing the fool.  
 Tell me how, when, and where Mr. Chips found his tool ?  
 Oh ! dis nasty old cross Hunk, dis mocker and quizzer,  
 Says he now hab em saw, for he *tick in em gizzer !*  
 Ha, ha, ha ! I'm more happy, more please, he bin found,  
 Den if old Massa Chip was to gib me ten pound,  
 For I fraid when at dinner he drink too much swizzle,  
 Dis old rogue would some day cut my throat wid him *chizle !*

J. M. D.

**WHITE PORPOISES.**—Several of the large white porpoises, common in the lower parts of the river, were seen on a recent occasion, near the Wharfs of St. Paul-street, on the shoals of the St. Charles, which are left dry by the ebb tide. It is known that this fish follows with avidity the smaller descriptions of herrings, smelts, and other fish spawn. The immense number of smelts caught this fall, near Quebec, and the probable absence of them below, had likely attracted these unusual visitors. About twenty-five or thirty years ago, they were quite common in the harbour of Quebec, showing, in their constant bathings, their white backs, like a breaking wave. They are now very rarely seen at Quebec, probably both owing to the disappearance of their favourite food, and to the great diminution of their numbers. As many as a hundred and a hundred and fifty have formerly been taken in one tide at Riviere Ouelle and Malbaie, for the purposes of making oil, used generally for lamps, but sometimes partially as food, particularly for baking in the boiling oil, a very palatable description of the *croquignole* (a kind of crisp dough) of the Canadians. At Ile aux Coudres, a third of the fish used to be paid to the clergymen or seigneurs. These fisheries have now been discontinued for several years, the fish having in fact, from their rearing only one or two young in a year, like the whale, of which this is a variety, been nearly destroyed. We believe they are indigenous to both the West and East coasts of North America, frequenting only the shoal water between the sea and the large rivers. *Neilson's Quebec Gaz.*



TABLE XV.

*For reducing Venetian to English Feet, and English Feet to Venetian.*

1 Venice Foot = 1·1397847 English Foot.

1 English Foot = 0·8772631 Venice Foot.

Ven. or Engl. Feet.	English Feet and Dec. parts.	Venice Feet and Dec. parts.	Ven. or Engl. Feet.	English Feet and Dec. parts.	Venice Feet and Dec. parts.	Ven. or Engl. Feet.	English Feet and Dec. parts.	Venice Feet and Dec. parts.
1	1·140	0·877	38	43·312	33·336	75	85·484	65·795
2	2·280	1·755	39	44·452	34·213	76	86·624	66·672
3	3·419	2·632	40	45·591	35·091	77	87·763	67·549
4	4·559	3·509	41	46·731	35·968	78	88·903	68·427
5	5·699	4·386	42	47·871	36·845	79	90·043	69·304
6	6·839	5·264	43	49·011	37·722	80	91·183	70·181
7	7·978	6·141	44	50·151	38·600	81	92·323	71·058
8	9·118	7·018	45	51·290	39·477	82	93·462	71·936
9	10·258	7·895	46	52·430	40·354	83	94·602	72·813
10	11·398	8·773	47	53·570	41·231	84	95·742	73·690
11	12·538	9·650	48	54·710	42·109	85	96·882	74·567
12	13·677	10·527	49	55·849	42·986	86	98·021	75·445
13	14·817	11·404	50	56·989	43·863	87	99·161	76·322
14	15·957	12·282	51	58·129	44·740	88	100·301	77·199
15	17·097	13·159	52	59·269	45·618	89	101·441	78·076
16	18·237	14·036	53	60·409	46·495	90	102·581	78·954
17	19·376	14·913	54	61·548	47·372	91	103·720	79·831
18	20·516	15·791	55	62·688	48·249	92	104·860	80·708
19	21·656	16·668	56	63·828	49·127	93	106·000	81·585
20	22·796	17·545	57	64·968	50·004	94	107·140	82·463
21	23·935	18·423	58	66·108	50·881	95	108·280	83·340
22	25·075	19·300	59	67·247	51·759	96	109·419	84·217
23	26·215	20·177	60	68·387	52·636	97	110·559	85·095
24	27·355	21·054	61	69·527	53·513	98	111·699	85·972
25	28·495	21·932	62	70·667	54·390	99	112·839	86·849
26	29·634	22·809	63	71·806	55·268	100	113·978	87·726
27	30·774	23·686	64	72·946	56·145	200	227·957	175·453
28	31·914	24·563	65	74·086	57·022	300	341·935	263·179
29	33·054	25·441	66	75·226	57·899	400	455·914	350·905
30	34·194	26·318	67	76·366	58·777	500	569·892	438·632
31	35·333	27·195	68	77·505	59·654	600	683·871	526·358
32	36·473	28·072	69	78·645	60·531	700	797·849	614·084
33	37·613	28·950	70	79·785	61·408	800	911·828	701·810
34	38·753	29·827	71	80·925	62·286	900	1025·806	789·537
35	39·892	30·704	72	82·064	63·163	1000	1139·785	877·263
36	41·032	31·581	73	83·204	64·040	2000	2279·569	1754·526
37	42·172	32·459	74	84·344	64·917	3000	3419·354	2631·789



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**A VISIT TO ICELAND** by way of Tronyem, in the Flower of Yarrow Yacht, in the Summer of 1834. By John Barrow, Jun. Murray. London.

The author of this little work may be known to our readers by his "Excursions in the North of Europe," noticed in our last volume. Accompanied by a party of friends, he has since paid a visit to Iceland, looking in at Tronyem, and we have here the result of his observations. The delay occasioned by some necessary repairs to the yacht at that place, gave Mr. Barrow the opportunity of visiting the valley of the Glommer Roiaas. After touching at Christiansund, the Flower of Yarrow shaped her course for Iceland. Our navigators, it appears, were not a little puzzled to find their destined port as soon as they were among the fogs on the rocky shores of that island, and the best chart of the coast was of little use to them. But with the assistance of a pilot, the yacht, after a narrow escape from a rock, was conducted safely into the harbour of Reikiavik, the capital of the island. Of this place Mr. Barrow gives a very interesting account, and paints in lively colours the general character of the country adjacent to the miserable town, (street, we might call it) of Reikiavik. The meeting with an old fellow-traveller, in the governor of the island, was an unexpected pleasure to our voyager. The object of the visit being to witness the extraordinary volcanoes called the Geysers, the party proceeded thither; their mode of travelling, and the appearance of these boiling fountains of water, are well described. Mr. Barrow was unable to visit Hecla; but his account of the island, of which so little is known, contains much information of a kind which will be found highly interesting and amusing.

**THE WEST OF ENGLAND JOURNAL OF SCIENCE AND LITERATURE.**  
No. 1. Jan. 1835. Longman, London.

We have received the first number of a quarterly publication bearing the above title. It commences, very appropriately, with introductory essays on Geology and Zoology, followed by a highly interesting paper on "the formation and growth of coral reefs and islands, by Mr. J. Stutchbury. The rest of the articles are equally well selected; and it is easy to foresee that the work must prosper, if it persevere in the course which a masterly hand has marked out for it. While we wish every success to our new contemporary, we may remark, with reference to the paper on the formation of coral, that the controversy, as to the depth at which the zoophytes will commence their labours, has attracted the attention of an experienced geologist—Capt. H. W. Bayfield, R. N. now surveying the river St. Lawrence. He has shewn in a short paper, read before the Literary and Historical Society of Quebec, that the coral animal is found in operation at the depth of twenty and thirty fathoms in the cold waters of the St. Lawrence. The paper is of that interesting kind, in addition to its great importance, that it should be referred to by every one who takes up the subject of the formation of coral.

[Transactions of the Literary and Historical Society of Quebec, Vol. ii.]



**LIEUTENANT MATSON.**—Among the promotions conferred by the Admiralty of late years, not one is calculated to give so much satisfaction to the whole navy, as that of Mr. W. J. Matson to the rank of Lieutenant. Full well has this officer merited their Lordships' approbation in the execution of a piece of service which not only involved the risk of a cruel death, and demanded for its execution the utmost coolness and promptitude of address, but which, for the attainment of a great object, involved the life of no one but himself. We may hereafter recur to this subject, for it is one fraught with heroic deeds, and which, happily for the ends of justice, have terminated successfully; and we sincerely congratulate Mr. Matson on the result, that, having devoted himself alone to the successful capture of a band of atrocious pirates, and thus being the means of bringing them to justice, he has obtained the honour of a special promotion.

We perceive that Mr. Oliver Lang, the builder of Woolwich Dock-yard, has been presented by His Majesty, the King of Denmark, with a diamond ring (value 100 guineas,) for the safety keel and new scuttle for ships, invented by him; descriptions of which we gave (of the first) in our first volume, and (of the last) in our March number. It is gratifying to see the merits of our countrymen acknowledged by foreign princes; and while we commend the ingenuity of Mr. Lang, and consider him as well deserving such a mark of approbation, we also consider, that to be foremost in encouraging improvements in an art which has for its object the general welfare of society, adds lustre even to the monarch's crown.

Mr. C. P. Smyth, second son of Captain Smyth, of the *Crescent*, Bedford, has been appointed, by the Lords of the Admiralty, assistant astronomer at the Cape of Good Hope.

We understand that a Commission is now sitting at the Admiralty, to inquire into the merits of Mr. Kyan's process for preventing the dry-rot in timber, &c. which consists of Commodore Hayes, the distinguished naval architect; D. A. Copland Hutchinson, surgeon to the Royal Naval Hospital at Deal, during the last war; and Mr. Daniels, professor of chemistry at King's College, on the part of the crown.—*Hants Tel.*

**UNITED SERVICE MUSEUM, (4034 Members.)**—On the 7th April, Dr. Ritchie gave a lecture on the earth's magnetism. He began by stating that it had long been a subject of reproach, that so little had been done in this country for the cultivation of scientific knowledge among the officers of the Army and Navy, while in France and other countries, the most anxious attention of the government had always been directed to this subject. It was therefore to him a source of great gratification, to be called upon to lecture before a body of officers who had enrolled themselves together to remove this national reproach by the diffusion of science among its members.

Dr. Ritchie then gave a general view of voltaic electricity and magnetism, and shewed that electricity was the *sole* cause of inducing magnetism in soft iron and steel.

After explaining and illustrating the fundamental experiment in deflecting the needle either by *voltaic electricity* or *thermo-electricity*, he proceeded to apply the principle to account for the magnetism of the earth.

The chief points which require to be ascertained in the magnetism of the earth, are, the direction of the horizontal needle; the direction of the dipping



needle, and the intensity of the force in different latitudes. After explaining and illustrating, by experiments and models, the laws of the horizontal and dipping needles, he showed by actual experiment, on a small terrestrial *electro globe*, all the laws of terrestrial magnetism.

It was thus clearly shown that the earth owes its magnetism *entirely* to electric currents, which move in a direction nearly east and west. He then showed that a piece of soft iron, being held in a vertical position, became a *temporary magnet*, and that this *temporary magnet* might be rendered *permanent* either by hammering or twisting. He then took a small bundle of thin iron wire, and having twisted it while held in a vertical position, it became a *permanent magnet*, and might be used as a compass, or to magnetize small needles.

The form of the *magnetic equator* was then illustrated, and shown to consist of a very irregular line, cutting the real equator in two points; it was shown that the line was nearly uniform along the surface of the ocean, but became very irregular when approaching islands, or the continent of America.

Dr. Richie concluded this most interesting lecture, by pointing out, in a few words, the intimate connection between electricity and magnetism, and the mode of obtaining electricity in large quantities by magnetic induction.

Lieut. R. Wall, R. N., will deliver a lecture on "Steam Navigation," on the 6th May, at three p. m., at the Institution, and lectures will be continued monthly during the season.

The *Cleopatra*, 26, is to be launched at Pembroke Yard, Milford, on the 28th April. She is of the following dimensions: tonnage, 863; length of gun-deck, 130 feet; ditto of keel for tonnage, 101 feet 6 ins.; extreme breadth, 40 feet; moulded breadth, 39 feet 6 ins. The *Cleopatra* is the same length as the *Andromache*, 28, launched at Milford, in August, 1832, but differs in other respects, thus: the latter ship's tonnage was 709; length of keel for tonnage, 108 feet 10 inches; extreme breadth, 35 feet 5 inches; moulded breadth, 34 feet 6 inches; depth in hold, 10 feet 6 inches. A party from the Dock-yard at this port, under the charge of Mr. Walker, with seamen from the flag-ship, will proceed to Milford, in order to rig the *Cleopatra*, and navigate her to Sheerness.

H. M. gun-brig *Alacrity*, 10, we understand has been lent by the Lords of the Admiralty, to be appropriated as a floating chapel for seamen, at this port, a desideratum which has long been wished, considering this (although the chief naval port) is the only one, we are informed, which does not possess a similar establishment. We therefore hail the measure with gratitude, and doubt not it will be productive of much benefit to the brave defenders of our country.—*Hants Tel.*

**IMPRESSMENT.**—We had prepared some observations on Sir James Graham's Bills on this subject, but as they coincided so fully with the following extract from the *Hants Telegraph*, we give it instead.

"The necessity of Impress, during the last war, arose principally from two causes—want of sufficient bounty, and coercive service of a lasting continuance without a prospect of relaxation. An able seaman, (and to qualify him for such, he must have been five or seven years at sea,) received only five pounds bounty, while a clodhopper from the plough's-tail, entering for the line, received sixteen guineas, or, as a substitute in the militia, sixty pounds, and he was then useless for six or nine months, while under tuition at drill. The soldier entered for a limited period, but the seamen was precluded from associating



with his friends for ever. Sir James Graham, therefore, in one of his Bills, proposes to remedy these errors, and for that purpose the preamble recognizes the right of the Sovereign to issue impress warrants, if seamen do not come forward rapidly enough in the event of an exigency; but a line is drawn as to the class of persons who shall be liable to the impress—they are to be “Seamen, Seafaring-men, and Persons whose occupation and callings are to work in vessels and boats upon rivers,” all of whom are to be exempt from the Militia ballot.—Landsmen liable to serve in the Militia, are to be protected, as are apprentices of all sorts, the masters of all vessels, the first mates of vessels above 80 tons, and the second mates of vessels above 300 tons. It is however, to be stipulated, that, to ensure this protection, fishing vessels above 50 tons burthen are to carry eight apprentices; above 35 tons, seven; above 30 tons, six; above 20 tons, four; and all under 20 tons, are to have two apprentices; this number of apprentices will protect one seaman also; each of the London Fire Insurance Companies are to give protection to thirty watermen; no impressed man to serve more than five years, and, if abroad, to be sent home at the expiration of his time; all impressed seamen to be discharged within six months after the cessation of any war; if a man be detained beyond this period, from unavoidable circumstances, he is to be entitled to one-fourth additional pay. On any proclamation from the King, calling on his seafaring subjects for their services, all seamen who voluntarily enter for five years, within six days, are to receive double bounty, as are also merchant seamen, who volunteer within half an hour after the visitation or search of any naval officer; if they continue a second five years, they are to receive the bounty as a newly entered man, and all seamen serving in the fleet, on the breaking out of a war, are to be entitled to a bounty for five years’ servitude, as if entered afresh; one year’s service in war, is to be reckoned as two in peace, in computation of pensions; and in war time all pensioned seamen are to receive their pensions in addition to their pay; all seamen entering the service from our Colonies, for five years, are to be sent home to such Colonies at the Government expense, at the expiration of their engagement: and any seaman may demand his discharge at any period during his engagement, on finding two able seamen as substitutes, who are to enter for five complete years.—These are liberal terms, and will go far to prevent Impressment in future.

#### PRIZE CHRONOMETERS.

[We readily insert the following letter, because every thing connected with the excellence of a chronometer is of importance, and because we wish Mr. Muston to send us his further ideas upon this interesting subject.

We have taken some pains to inquire into the objects and notions with which Government first established the trial and premium system for chronometers at Greenwich; then gradually raised the test of their merits; and have now given notice that with the present year their trial will terminate. And we are satisfied that the object was in the first place to obtain the best chronometers that the country could produce for the use of H. M. Navy; in the second place, to stimulate the invention and industry of the many able persons engaged in their manufacture; and as this could not be effected without preventing the mere broker from reaping the reward due to the skilful and scientific artisan, a more specific declaration was, in the third place, introduced on the deposit of the chronometers at Greenwich, and guarded by the security of



an oath if necessary. But as this has been found by experience not to work so satisfactorily as might have been expected, as the two objects have been achieved according to the opinion of most people, whether makers of chronometers, or philosophers, whom we have consulted,—and as any system must be vicious and hurtful which exposes its followers to jealousy and detraction, and which requires to be bolstered up by oaths,—His Majesty's government has cut the matter short, by discontinuing all further general trials, but reserving to itself the power of recompensing distinguished merit, and of encouraging the real and skilful workman to persevere in his endeavours to improve these beautiful machines, and to put them within the reach of every seaman.]

*To the Editor of the Nautical Magazine.*

SIR,—From the great interest manifested by your Magazine in behalf of all matters connected with nautical science, I am induced to hope that you will excuse my intruding upon your pages a few remarks, relative to the subject of the last year's trial of chronometers at the Royal Observatory, Greenwich, for the prizes awarded by Government.

Many partial and erroneous statements of the result of that trial have been circulated by some of the diurnal prints, and many errors have been propagated, which I conceive it but justice towards those who may, by possibility, be misled by them, to endeavour to correct.

I need say nothing to your readers, sir, of the importance of the chronometer to navigation; it has taken its rank among the highest class of instruments employed by nautical men; but in proportion to its great value, is the necessity that every information respecting its manufacture should be based upon truth.

In order to a clear understanding of the subject, it may be necessary briefly to state, that upon some of the trials at Greenwich, sundry deceptive practices were resorted to, by which, mere speculative dealers in chronometers, pawnbrokers, workmen of watch manufacturers, who understood nothing of the principle of chronometers, and who, in some cases, it is believed, never even saw the outside of the machines to which their names had been attached as the makers, were made to enter the lists as competitors for the prizes; and that with the view of checking these petty frauds, the Lords Commissioners of the Admiralty established certain regulations, to which all the depositors of chronometers for trial were required to conform. The principal of these regulations were, that the depositor was to be the *real maker* and the proprietor of the pieces bearing his name; that they should be pieces which had not before been placed upon trial; and that he should take an oath to the above effect, if required. It will clearly appear from such regulations, that the object desired by the Government, was the improvement to the greatest possible extent, of an instrument of such acknowledged utility as is the chronometer, and which was to be effected by stimulating the exertions of the *real maker*.

These preliminary remarks being kept in mind, the circumstances of an unpleasant nature (as they have been described in certain newspaper paragraphs) connected with the issue of the late competition, will be easily explained. I must, however, take leave at the outset to disclaim all knowledge of the gentleman to whom the late prize has been awarded, even that of his being a chronometer maker; and to declare that I intend no reference to him in any thing that I may have to communicate, beyond that which may be absolutely necessary to the statement of all the facts connected with the adjudication of the late prize. I feel this to be the more imperative, as, having been one of the competitors on the late trial, I am liable, by implication, to



be included among those whose "hostility" is said to have been excited by "envy" and disappointment. I can assure that gentleman that I feel neither the one nor the other, but can afford to leave to him the entire possession of as much merit as he may choose to claim for himself, or as others may choose to award him. Attached to the art I follow, I have no other object in addressing you, sir, than to supply the omissions in the various newspaper advertisements which have appeared upon the subject, and thus to enable such of your nautical readers as may take an interest in the improvement of chronometers, to form a correct judgment upon a *complete* view of this case in particular, and upon the subject in general, as connected with the trial of those instruments at Greenwich.

At the commencement of the last annual trial, twenty-eight chronometers were deposited, which number was gradually reduced by withdrawals, until, at the close of the trial, seven alone remained, the greatest difference of whose monthly rates was as follows :—

				"	
Arnold & Dent,	. . .	No. 700	. . . . .	1,45	
Appleton,	. . . . .	190	. . . . .	1,60	
Baker,	. . . . .	: 986	. . . . .	0,80	
Carter,	. . . . .	144	. . . . .	1,36	
Eiffe,	. . . . .	2	. . . . .	1,34	
Litherland & Davis,	. . .	315	. . . . .	1,13	
Muston,	. . . . .	455	. . . . .	1,26*	

From this statement of the extreme difference of the monthly rates, (which is the standard of excellence that has been assumed by some anonymous writer in a morning journal on behalf of the gentleman to whom the recent prize has been awarded,) it will appear, that, excluding the last upon the list, which is only from a 10 months' rate, while all the others are from a 12 months one, the chronometer named, Carter, No. 144, will stand the *fourth* in order of merit for its performance. In the method adopted at Greenwich, of computing what is technically called the '*trial number*,' other elements are included, and by this mode the chronometer named Carter is raised one upon the list, but this only by the very insignificant quantity of *two hundredths* of a second; in short, it is raised just as much above the next on the list by the one mode of computation, as it is depressed below it by the other mode. With what propriety then, the owner of this chronometer could state, as he has done in his advertisements, "that the prize has been awarded him for the *very great superiority* of his chronometer, when a difference of *three hundredths* of a second would absolutely have placed him *hors de combat*, I leave to your readers to determine.

It may be proper here to observe, that none of the chronometers upon trial went within the limits of the *first* or *second* prizes. [It is then only a question in the present case of the *third* or *lowest* prize, and this fell, in the first instance, to the chronometer named Baker.

\* This latter rate is taken from a period of 10 months; the chronometer having been at that time withdrawn by a mistake of one of the assistants at the Royal Observatory, but was replaced after the lapse of a fortnight, when the mistake was discovered. Having, in candour, placed this chronometer in the list, under such disadvantageous circumstances, common justice to myself demands that I should state the fact, that the accident just referred to, of letting it go down for a fortnight, deprived it of the chance of obtaining the prize, which a bare inspection of its published rate for the 10 months that it was first kept going, would satisfy every competent judge it was very likely to have done, seeing that the chronometers, Baker, and Litherland & Co. were ultimately withdrawn. It has since been purchased by his Majesty's government.



Mr. Baker declined to take the oath required of him, that he was the real maker of the machine.

The next in order was the chronometer which bore the names of Litherland and Davis. A copy of the oath was forwarded to those gentlemen, which they have, through the medium of the Morning Chronicle of the 28th March last, informed the public, was to the effect "that the springing and adjusting of the chronometrical parts of the chronometer must be *entirely* and *solely* their own, without combining the talent or assistance of any other person for those purposes." This oath Mr. Davis declined to take, and therefore lost the prize.

The next chronometer on the list was that named Carter, No. 144. The public have been pretty generally apprized that Mr. Carter took the oath required of him. Of the precise terms of that oath, I am entirely ignorant, but I submit that the discussion which has been for some time carried on, would be very much simplified if that gentleman would insert it *verbatim* in his next advertisement. I, who am rather curious in such matters, should like much to place it in juxtaposition with the evidence which, in common with other chronometer-makers, I heard delivered at the examination which took place at the Royal Observatory on Monday the 2nd of April. This evidence went to prove that the springing, and adjusting, of the chronometrical parts of the machine in question were performed by a chronometer-maker of great merit, now deceased, named Thomas Heyes. This fact was established to the satisfaction of the Astronomer Royal, and was ultimately admitted by Mr. Carter himself, who, however, pleaded that he had afterwards made some alterations which he called "final adjustments," and without which, he said, the chronometer would not have performed as it had.

This, sir, is a plain statement of facts, which every person may understand, and is founded upon evidence not to be disproved. It is, withal, so conclusive as to the main point at issue, that all minor matters which have been mixed up with it, apparently for no other object than that of creating confusion in the mind, may be safely disregarded.

One subject connected with the above investigation, it may be proper to notice. The individuals who promoted that investigation have been referred to in a morning journal by an anonymous friend, it is presumed, of the gentleman to whom the prize has been awarded, and have been accused by him of having "taken nothing by the motion but indelible disgrace." What, let me ask, from the whole of the facts now submitted to you, is the "indelible disgrace" thus insolently charged against them? The Lords Commissioners of the Admiralty had adopted certain regulations, to prevent, as far as possible, those petty deceptions, which men, acting upon no higher principle than mere mercenary trading, will sometimes resort to, and which, though in mercantile enterprise may not be dishonourable, were evidently intended by their lordships to be kept out of the competition at Greenwich. The practical chronometer-makers,—those men to whose talents and to whose energy the instrument owes its present state of perfection,—sought only to second the views of their lordships. The prize was successively declined by the owners of the two chronometers which were at the head of the list; it was known that there were circumstances connected with the manufacture of the chronometer named Carter, which were considered to place its owner in precisely the same position as that of Mr. Davis, who had honourably declined the prize, and these circumstances were represented to the Lords Commissioners of the Admiralty, who, in consequence, ordered an investigation to take place. The result of that investigation has been detailed; and what, I again ask, is the "indelible disgrace" springing from it? The individuals concerned proved all that they



had asserted, and which was all they sought to do. The "final adjustment," ("I thank thee, Jew, for that word") rested with the Board of Admiralty, and that Board has awarded the prize to Mr. Carter, not because the Board believed that the individuals who caused the inquiry had brought upon themselves "indelible disgrace," not because they had made any mis-statements with regard to Mr. Carter, but because that gentleman had taken the oath which the Lords Commissioners of the Admiralty required him to take, and which the respective owners of two better chronometers than his had refused to take.

I, as a chronometer maker, sir, do not question the propriety of the award, seeing that the condition of their lordships, as regarded the oath, had been complied with; but what is the actual position of the gentleman in whose favour it has been made? Had his chronometer been the first upon the trial, his claim to pre-eminence would have been somewhat equivocal after the investigation that had taken place; but seeing that it was in fact the *third* in position, and only within *three hundredths* of a second of being even the *fifth*, and in short for all practical purposes not in the smallest degree superior to any that remained upon trial, he must submit, under even the most favourable circumstances for himself, to take his station in the *third* order of merit, if the logic of his own advertisements be worth any thing at all, and that too, supposing him to be capable of more than he lays claim to, which in the present instance is limited to the making of "final adjustments."

In one of his advertisements, this gentleman says, that the difference between his chronometer and the next best one, was *very trifling*. Why, sir, this *very trifling* difference, amounted to *sixty-five hundredths* of a second against him, while, as I have shewn above, he had but *three hundredths* of a second in his favour over two other chronometers, and yet he talks of the *superior* performance of *his* chronometer. If three hundredths of a second will create such a superiority, sixty-five hundredths of a second must create a superiority twenty-one times as great, if there be any truth in arithmetic; and yet this difference is said to be *very trifling*! Really, sir, the simplicity of this gentleman must be very extraordinary, or he must have a very odd way of estimating the intelligence of the rest of the world. As to differences, they are, practically viewed, in most cases trifling, between the solitary chronometers that gain prizes, and the dozens that lose them; and this is one of the disadvantages of which the really intelligent practical men who made chronometers expressly for the trials have had to complain, under the system which has hitherto been pursued. But this subject is far too comprehensive to be entered fully into on the present occasion. At some future time, if acceptable, I shall be happy to return to it, and to explain my views as to the most judicious method of encouraging the manufacture of good chronometers at the cheapest rate.

An attempt has been made, by the anonymous writer to which I have before referred, to give undue importance to this investigation, by assuming the existence of an "increased anxiety" respecting the prizes, arising out of their approaching extinction. This assumption argues a singular degree of ignorance as to the relative value now attached to the prizes by *real* chronometer makers. My opinion is, that they have existed long enough in their present state to be just worth the numerical value in pounds sterling, which they bear over and above the current price of chronometers, and no more. Every man of science, every person who understands how to use a chronometer, and who knows any thing of the history of the Greenwich trials, knows that the result of such a trial is no certain test of merit on the part of the individual whose name the chronometer may happen to bear. As much talent



has been employed in the construction of numbers of chronometers, which have not gained prizes, as in those which have, and such chronometers were as valuable for all practical purposes as the others, and indeed much more so, if all be true which has been reported of some of the prize chronometers. Besides, sir, a new element of deception and of discord is now introduced. Any person who has just so much knowledge of watch-work as a pawnbroker may be presumed to possess; any fabricator of Dutch clocks; any person, in short, who may collect from a treatise on mechanics, a sufficient knowledge of terms to be able to discuss the wheel-work of a roasting-jack, might now, under this new addition to the category of qualifications, send chronometers to Greenwich, with his name on them, as the real maker, and though, at the end of the trial, the real maker himself should come forward, and swear to the work of his own hands, and should bring, withal, a host of witnesses to confirm his statements, he must inevitably be thrust out of court by any pretender, on the plea of "final adjustments."

Happily, however, the subject is now too well understood in all its bearings by the clever persons who use chronometers, for the interests of the really intelligent maker to be ultimately much affected by such means, or to make the extinction of the prizes an affair of any moment with him. Such, however, may not be the case with the mere trader; *he* knows the value of puffery and empiricism, and the gaining a prize at Greenwich may furnish the occasion for a flourishing paragraph in a periodical, raising him to the dignity of a chronometer maker *par excellence*, and placing at the *head* of a profession, one, who but for such a fortuitous turn of fortune's wheel, would never have imagined himself destined to become even the remotest joint of its *tail*.

The real chronometer makers, then, sir, in my judgment, care nothing about the Greenwich competition, either as to how long it may be continued, or how soon it may be extinguished. They justly appreciate the motives that gave rise to its establishment, and will, I doubt not, so long as it may continue, contribute their best aid in preventing its abuse, regardless alike of the sneers, of the threats, or of the insolence of those, who would prostitute that which was intended as an encouragement to science, to the lowest and most selfish purposes of mercenary traffic. The importance of the subject, sir, must be my apology for intruding upon you at such length, as it will, I hope, be also an inducement to you to give it your earliest attention.

I am, Sir, your obedient servant,

GEORGE MUSTON.

18, Red Lion Street, Clerkenwell,  
April 15th, 1835.

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**BREAKERS.**—Mr. Thomas, the experienced commander of the Investigator surveying vessel, has said, that "all rocks\* with less than 8 fathoms over them were breakers," at the Shetland islands, during the terrific gale in the latter part of August, 1833. As the subject is one of some interest, and as it throws some light on the depth from the summit to the bottom of a wave's surface, we extract the following from a letter from Com. Mudge, on the west coast of Ireland:—"In calms we find the swell quite as heavy, and sometimes more so, than in blowing weather. The swell will break in 9 and 10 fathoms, and almost always in 4 to 6 fathoms."

\* See p. 420, Vol. II. Naut. Magazine.



## Nabal Register.

COMMISSIONERS for executing the Office of LORD HIGH ADMIRAL of the United Kingdom of Great Britain and Ireland.

The Right Honourable George *Baron* Auckland.  
 The Right Honourable Archibald *Lord* Dalmeny.  
 Charles Adam, Esq., *Rear-Admiral of the White*.  
 Sir William Parker, Knt. C.B., *Rear-Admiral of the Blue*.  
 The Honourable George Elliott, C.B., Captain R.N.  
 Sir Edward-Thomas Troubridge, Bart., Captain R.N.

*First Secretary*—Charles Wood, Esq.

*Second Secretary*—Sir John Barrow, Bart., L.L.D., F.R.S.

*Hydrographer*—Captain F. Beaufort, R.N., F.R.S.

THE ROYAL NAVY IN COMMISSION—APRIL 21st, 1834.

C Date of Commissioning.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B. *Appointed* 23d Jan. 1833. *Flag-Lieut.*  
 T. B. Eden; *Secretary*, Thomas Williams.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H. *Appointed* 27th April, 1833.  
*Flag-Lieut.* C. H. M. Buckle; *Secretary*, J. Loudon.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming. *Appointed* 16th Aug. 1834. *Flag-Lieut.*  
 Granville G. Loch; *Secretary*, B. Chimmo.—*Flag-Ship*, OCEAN, 80.

ASTREA—Captain A. King, foreign packets, Falmouth.

BARHAM, 50—Captain A. L. Corry, Chatham, fitting.

BASILISK—Lieut. A. M'Donald.

CAMELEON, 10—Lieut. Com. J. Bradley, Portsmouth station.

CHAMPION, 18—Com. R. Fair, K. H. Plymouth, fitting.

CLIO, 16—Commander W. Richardson, Portsmouth, fitting.

EXCELLENT, late BOYNE—Captain T. Hastings, Portsmouth, for the practice of naval gunnery.

MAGICIENNE, 24—Captain St. John Mildmay, Portsmouth, fitting.

OCEAN, 80—Captain A. Ellice; Sheerness.

PEARL, 20—Com. H. Nourse, Sheerness, fitting.

PIQUE, 36—Captain Hon. H. J. Rous, 31st March arrived at Portsmouth. To convey Lord Amherst to Quebec, will

be ready for sea on the 23d of April. It is expected the Pique will go to New York, and remain to bring his Lordship to England again, as his mission will not occupy more than three months. Earl Amherst will be accompanied by his nephew the Earl of Hillsborough, and his secretary Mr. Elliot.

PIKE, 12—Lieut. Com. A. Brooking, Plymouth, fitting.

PORTSMOUTH, *Yacht*—Lieut. Com. J. Maitland, Portsmouth.

PRINCE REGENT *Yacht*—Captain G. Tobin, C.B., Deptford.

ROYAL GEORGE *Yacht*—Capt. Right Hon. Lord A. Fitzclarence, G. C. H., Portsmouth.

ROYAL SOVEREIGN *Yacht*—Capt. C. Bullen, C.B., Pembroke.

ROYALIST—Lieutenant C. A. Barlow, Plymouth, fitting.

SAN JOSEF, 110—Capt. G. T. Falcon, Hamoaze.



**SAPPHIRE**, 28—Capt. R. F. Rowley, at Portsmouth, fitting, said for South America.

**SEAFLOWER**, Cutter, 4—Lieut. Com. J. Morgan, 12th February sailed for Jersey.

**SPEEDY**, Cutter—Lieut. C. H. Norrington, Portsmouth station.

**TWEED**, 18—Commander T. Maitland, Portsmouth, fitting, said for Mediterranean.

**VICTOR**, 18—Com. R. Crozier.  
**VICTORY**, 104—Captain R. Williams, Portsmouth.

**WILLIAM AND MARY**, Yacht—Capt. S. Warren, C.B., Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage. *Appointed* 9th April, 1834. *Flag-Lieut.* James L. Parkin; *Secretary*, John Irving.—*Flag-Ship*, **HASTINGS**, 74.

**CASTOR**, 36—C May '32, Capt. Rt. Hon. Lord John Hay, north coast of Spain.

**HASTINGS**, 74—C April '34, Captain H. Shiffner, in the Tagus 28th March.

**LEVERET**—C Dec. '31, Lieut. Com. G. Traill, 14th Feb. arr. at St. Michael's.

**NIMROD**, 20—C April '32, Com. R. M'Dougall, (b) 6th Feb. arr. at Lisbon.

**RINGDOVE**, 16—C Nov. '33, Com. W. F. Lapidge, 4th Jan. at Santander.

**ROYALIST**, 10—Lieut. Com. Barlow, 26th March arrived at Plymouth; 15th April sailed for Lisbon.

**SARACEN**, 10—C Nov. '33, Lieut. Com. T. P. Le Hardy, 5th June arrived at Lisbon from Cadiz.

**STAG**, 46—C April '31, Captain N. Lockyer, C.B., 28th March in the Tagus.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B. *Appointed* 18th Dec. 1833. *Flag-Lieut.* H. B. Young; *Secretary*, T. Triphook.—*Flag-Ship*, **CALEDONIA**, 120.

**CALEDONIA**, 120—C May '33, Capt. T. Brown, 19th Feb. at Vourla; 12th March at Malta.

**CANOPUS**, 84—C Nov. '33, Hon. J. Percy, 19th Feb. at Vourla; 12th March at Malta.

**CEYLON**, 2—C Feb. '34, Lieut. J. G. M'Kenzie, Malta.

**CHILDERS**, 16—C May '34, Com. Hon. H. Keppel, 20th March at Malta.

**COLUMBINE**, 18—C June '34, Com. T. Henderson, 21st March sailed from Malta.

**EDINBURGH**, 74—C Oct. '33, Captain James R. Dacres, 19th Feb. at Vourla; 12th March at Malta.

**ENDYMION**, 50—C June '33, Captain Sir Samuel Roberts, C.B., 20th March at Malta.

**FAVORITE**, 18—C Aug. '33, Com. G. R. Mundy, 20th March at Malta.

**JASEUR**, 18—C Nov. '33, Com. J. Hackett, 7th Feb. at Gibraltar.

**MALABAR**, 74—C July '34, Captain Sir W. A. Montagu, K.C.H., 19th Feb. at Vourla; 12th March at Malta.

**MEDÆA**, 6—C Jan. '34, Com. H. T. Austen, 20th March arrived at Malta from Vourla. In a former number we noticed the extraordinary rapid passage

from Plymouth to Malta made by the *Medæa* steam man-of-war, (10 days and 5 hours,) which vessel was constructed by, and built under the direction of, Oliver Lang, Esq. Master-Shipwright of Woolwich dockyard. Her qualities under sail without steam have been tried several times since, in company with the squadron, and her behaviour has excited much admiration. She has not only kept company with the squadron without her steam, but in several instances has outsailed those she was in company with. On one occasion, she started from Vourla blowing a treble-reefed top-sail breeze. The *Beacon* and *Mastiff* had considerably the start of her, and it was thought impossible the *Medæa* could work out of the harbour, in the teeth of such a gale of wind. Not only did she accomplish this, but in a short time she had weathered both vessels, thus proving the fallacy of the oft-repeated assertion, that, whenever any accident should happen to the machinery, the steamer would become a helpless log on the water. The numerous trials the *Medæa* has had with the squadron under Sir Josias Rowley has proved that a well-



constructed steamer, properly masted and rigged, would be always able to keep her station in a fleet. This is very important, as there can now no longer be any doubt as to their usefulness for purposes of war.

ORESTES, 18—C June '34, Com. H. J. Codrington, on the coast of Spain.

PORTLAND, 52—C May '34, Captain D. Price, 19th Feb. joined the fleet at Vourla; 12th March at Malta.

REVENGE, 78—C March '34, Capt. W. Elliott, C.B., 19th Feb. at Vourla; 12th March at Malta.

SCOUT, 18—C July '32, Com. W. Holt, 11th March at Constantinople.

THUNDERER, 84—C Oct. '33, Capt. W. F. Wise, C.B., 19th Feb. at Vourla; 12th March at Malta.

TRIBUNE, 24—C May '34, Captain J. Tomkinson, Malta.

TYNE, 28—C Jan. '34, Capt. Right Hon. H. J. C. Viscount Ingestrie, C.B., 12th March at Corfu.

VERNON, 50—C Aug. '34, Captain M'Kerlie, 19th Feb. at Vourla; 20th March at Malta.

VOLAGE, 28—C April '33, Capt. G. B. Martin, C.B., Jan. at Constantinople, 7th Feb.

#### CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B. *Appointed* 30th May, 1834. *Flag-Lieut.* James Maidland; *Secretary*, J. B. Hutchings.—*Flag-Ship*, THALIA, 46.

BRISK, 3—C Sept. '31, Lieut. Com. J. Thompson, Sept. on the Gold Coast. Expected home.

BRITOMART, 10—C March '33, Lieut. W. H. Quin, Gold Coast.

BUZZARD, 10—C June '34, Lieut. Com. N. M'Namara, Feb. in the Bight of Benin. The Buzzard has captured a large brig, the Formidable, under Spanish colours. The latter vessel maintained a fight with the Buzzard for 45 minutes. She had a crew of 75 men, and 707 slaves on board. The Spaniards lost seven men in the action, and two men were killed on board the Buzzard. When the prize arrived at Sierra Leone, she was nearly a wreck, and 307 slaves had died on the passage.

CHARYBDIS, 3—C Jan. '34, Lt. Com. S. Mercer, 12th Oct. at Sierra Leone.

CURLEW—C Jan. '35, Lieut. Com. Hon. J. Denman, 10th Feb. arrived at Madeira, 12th sailed for Africa.

FAIR ROAMOND, *Schooner*—C May '33, Lieut. Com. G. Rose, Bight of Benin.

FORESTER—C Sept. '33, Lieut. G. G. Miall, Feb. cruising off the Bonny river.

GRIFFON, 3—C Oct. '32, Lieut. J. E. Parly, September and October at Ascension.

LYNX, 10—C Sept. '33, Lieut. Com. H. V. Huntley, Gold Coast, Feb. Expected at Sierra Leone. The Lynx, Lieut. Huntley, had captured the Atrevida, with 494 slaves (of whom nine had died on the passage,) and sent her, under the charge of the Second Master, to Sierra Leone.

PELICAN—C Jan. '35, Com. B. Popham, 16th March left Portsmouth for African station.

PELORUS, 18—C Sept. '31, Com. R. Meredith, 8th Nov. at Sierra Leone. Expected home.

ROLLA, 10—Lieut. Com. F. H. H. Glasse, 24th March arrived at Plymouth from Sheerness, 27th sailed for the coast of Africa.

THALIA, 46—C May '34, Capt. R. Wauchope, 18th January arrived at the Cape from Ascension.

TRINCULO, 18—C May '32, Com. J. R. Booth, 14th January in Algoa Bay.

#### EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Appointed* 30th May, 1834. *Flag-Lieut.* Hon. J. R. Drummond; *Secretary*, A. Kent, *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—C June '34, Lieut. Com. G. Stovin, 26th Nov. arrived at Cape of Good Hope.

ALLIGATOR, 28—C Sept. '31, Capt. G. R. Lambert, 31st August sailed from Sydney for New Zealand; 15th Dec.

expected at Madras, being relieved by the Hyacinth.

ANDROMACHE, 28—C Sept. '33, Capt. H. D. Chads, C.B., 21st Nov. arrived at Madras from Canton.

CURAÇOA, 26—C April '31, Capt. D.



Dunn, ordered home. 15th Dec. at Calcutta, waiting to bring home the Governor-Gen. Lord W. C. Bentinck, expected to embark on the 17th March.

HARRIER, 18—C Nov. '31, Com. S.L.H. Vassal, 22d Nov. left Trincomalee for Colombo. Ordered home.

HYACINTH, 18—C Feb. '33, Com. F. P. Blackwood, 30th Sept. left Madras for New South Wales.

IMOGENE, 18—C July '31, Captain F. Blackwood, 13th Nov. at Manilla, Dec. expected at Madras. Ordered home.

MELVILLE, 74—C Sept. '31, Vice-Admiral Sir John Gore, K.C.B. Captain H. Hart, 20th Dec. at Bombay, arrived 13th from Madras.

RALEIGH, 16—C July '34, Com. M. Quin, 16th Dec. arrived at the Cape. The following is an extract of a letter from an officer on board, dated from the Cape of Good Hope, Dec. 22, 1834:—"On the 28th Nov. we observed a strange-looking sail on our larboard bow, and immediately made sail in chase, and soon came up with her. A musket-shot was fired to make her heave-to, which, not doing very readily, we fired a nine-pounder across her bow; she then heave-to, and the 2d Lieutenant was sent on board, who hailed us, and

said she had slaves. Her name proved to be Rio de Plate, Luez Antonio de Silva, master. She sailed from the coast of Africa on the 5th of Nov. having then 565 slaves, which have been since reduced by death to 532. Fifteen of her crew were sent on board of us, and the vessel was sent to Sierra Leone in charge of a Lieutenant, Mate, five seamen, and five marines. Her burden is 248 tons. She had also a great quantity of tortoise-shell on board."

RATTLESNAKE, 28—Capt. W. Hobson, 23d March arrived at Plymouth from Portsmouth, 27th sailed for East Indies.

ROSE, 18—C June '34, Com. W. Barrow, 3d Nov. arrived at the Cape; 8th sailed for Bombay.

VICTOR, 18—Com. R. Crozier, 16th March left Cowes Roads for the East Indies.

WINCHESTER, 52—C June '34, Capt. E. Sparshott, K. H., 8th Jan. sailed from the Cape in company with the Trinculo.

WOLF, 18—C May '34, Com. E. Stanley, 14th Jan. at Algoa Bay. To sail next day for India, having been relieved by Trinculo.

ZEBRA, 16—C June '34, Com. R. C. M'Crea, 27th November arrived at the Cape.

#### NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Appointed* 6th Dec. 1832. *Flag-Lieut.* H. W. Willes; *Secretary*, T. Woodham.  
*Flag-Ship*, PRESIDENT, 52.

ARACHNE, 18—C July '31, Com. J. Burney, 11th Feb. arrived at Port Royal from Nassau, sailed for Tampico, Havana, and England. Expected home.

BELVIDERA, 42—C Dec. '33, Capt. C. B. Strong, 13th Feb. at Barbados.

COLUMBIA, St.V.—C Aug. '34, Mast. Com. James Henderson, 6th Feb. left Barbados for Antigua, 4th March at Barbados.

COMUS, 18—C Oct. '32, Com. W. P. Hamilton, 20th Feb. at Antigua.

CRUIZER, 18—C Aug. '33, Com. James M'Causland, arrived at Havana on the 13th Jan. with a prize schooner, having on board 340 slaves.

DEE, St.V. 4—Com. W. Ramsay, 4th March at Jamaica.

DISPATCH, 18—C June '32, Com. G. Daniell, 25th March at Barbados from Para. Ordered home.

DROMEDARY—C July '25, R. Skinner, Bermuda.

FIREFLY, 2—C Feb. '31, Lieut. Com. J. M'Donnel, 12th Nov. arrived at Jamaica.

FLAMER, St.V.—C Dec. '34, Lieut. Com. C. W. G. Griffin, 25th March at Barbados.

FLY, 10—C Sept. '31, Com. P. M'Quhae, at Belize. Ordered home.

FORTE, 44—C May '33, Capt. W. O. Pell, 9th Dec. left Port Royal for the north side of the island.

GANNET, 18—C March '34, Com. J. B. Maxwell, 15th Feb. at Port Royal.

LARNE, 18—C September, '32, Com. W. S. Smith, 25th January arrived at Jamaica.

MAGNIFICENT, 4—C July '30, Lieut. J. Paget, Port Royal.

PICKLE, 5—C March '33, Lieut. Com.



A. G. Bulman, 24th Feb. arrived at Jamaica from Maracaybo.

PINCHER, 5—Tender to flag-ship, 14th Feb. at Port-au-Prince.

PRESIDENT, 52—C Dec. '32, Captain James Scott, 19th March at Bermuda.

RACEHORSE, 18—C Jan. '34, Com. Sir E. Home, Bart. 28th Feb. arrived at Port Royal. In consequence of a disturbance having taken place at the island of the Grand Caymanas, His Majesty's Ship Racehorse, 18, Com. Sir J. E. Home, Bart., sailed yesterday for that place, to give such protection as may be required. The Racehorse will, after the arrival at the Caymanas, sail thence for Barbados.—*Jamaica Chronicle*, Feb. 13.

RACER, 16—C July '33, Com. J. Hope, 6th Nov. left Jamaica for Barbados; arr. there 15th, 30th Nov. expected at Port Royal, Jamaica.

RAINBOW, 28—C Feb. '34, Capt. Thos. Bennet, 21st Feb. at St. Vincent's.

RHADAMANTHUS, St. V.—C Oct. '32, Com. G. Evans, 8th Nov. and 30th

Nov. at Port Royal, Jamaica; 3d Apr arrived at Plymouth, left Jamaica 11th Feb. and Bermuda 4th March, 7th April arrived at Portsmouth. She was immediately dispatched to Weymouth Roads, with two Dock-yard vessels, to render assistance in attempting to get off the Hound cutter, and on her return, she went on immediately to Woolwich to be paid off.

SAVAGE, 10—C Nov. '32, Lieut. R. Loney, 8th Jan. left Barbados; 11th arr. at Trinidad, and sailed for Jamaica.

SCYLLA, 18—Com. E. J. Carpenter, 16th March left Spithead for Halifax.

SERPENT, 16—C Oct. '32, Com. M. H. Sweney, March at Bermuda.

SKIPJACK, 5—C June '33, Lieut. Com. S. Ussher, (act.) 30th Nov. Port Royal.

SPITFIRE, St. V.—Lieut. Com. A. Kennedy, 29th Jan. arrived at Falmouth.

VESTAL, 26—C May '33, Capt. W. Jones, 4th March at Jamaica.

WASP, 18—C July '33, Com. J. S. Foreman, 12th Feb. sailed for Belize.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hammond, K. C. B. *Flag-Lieut.* A. S. Hammond; *Secretary*, E. E. Vidal.—*Flag-Ship*, SPARTIATE, 74.

ACTÆON, 28—C Nov. '34, Capt. Lord Edward Russell, 22d March sailed from Plymouth for South America.

BLONDE, 46—C Nov. '33, Capt. F. Mason, C.B., 28th Nov. at Valparaiso.

CHALLENGER, 28—C June '33, Capt. M. Seymour, 10th Sept. arr. at Tahiti.

COCKATRICE, 6—C July '32, Lt. Com. W. L. Rees, running between Rio Janeiro and Buenos Ayres.

CONWAY, 25—C Feb. '32, Captain H. Eden, 24th December at San Blas, Mexico. Extract of a letter from her:—We leave this place in a few days for northward, and send this by Consul's bag overland to Tampico for England. We left Valparaiso 1st Oct., touched at Callao, Guayaquil, the Galapagos, Punta Arenas, Realegos, and arrived here 23d inst; we shall proceed to Mazatlan and to Guaymas, (at the head of the Gulf of California,) and remain till the end of February; return to Mazatlan, and remain three weeks; thence hither; about middle of April, leave for Valparaiso; thence Coquimbo, and finally for England about 1st July.

DUBLIN, 50—Capt. C. Hope, 10th April left Plymouth for Rio. To relieve the Spartiate.

HORNET, 6—C July '32, Lieut. Com. F. R. Coghlan, running between Monte Video and Rio Janeiro.

NORTH STAR, 28—C April '34, Capt. O. V. Harcourt, 9th Feb. arrived at Pernambuco from Rio.

RAPID, 10—C July '33, Lieut. Com. F. Patten, 19th Jan. at Rio Janeiro, to proceed to Falkland Islands.

ROVER, 16—Capt. C. Eden, 15th March left Plymouth for S. America.

SATELLITE, 18—C Sept. '32, Com. R. Smart, ordered home; 26th Oct. arrived at Callao from Valparaiso.

SNAKE, 16—C April '32, Com. W. Robertson, at Rio 11th Feb., returned from Falkland Islands 5th; to sail 12th on a cruise, and to sail for England on the arrival of the Challenger. Ordered home.

SPARROWHAWK, 18—C Nov. '33, Com. C. Pearson, 19th Jan. at Buenos Ayres.

SPARTIATE, 76—C Oct. '32, Capt. R. Tait, 12th Feb. at Rio refitting, having been unable to reach the Falkland Islands from bad weather.

TALBOT, 28—C May '34, Capt. F. W. Pennell, 7th Jan. sailed from the Cape of Good Hope for India, having arrived same day from Rio.



TROOP SHIPS.

**ATHOL**, *Troop Ship*—Master Com. A. Karley, 8th Feb. arrived at Portsmouth from Nassau; under orders to sail for Cork, Newfoundland, and Quebec.

**BUFFALO**, *Store Ship*—Master Com. F. W. R. Sadler, Portsmouth, fitting. The Buffalo is to be prepared for conveyance of convicts to New South Wales, afterwards she is to proceed to Trin-

comalee, and there to be appropriated for a hospital receiving ship.

**JUPITER**, *Troop Ship*—Capt. A'Court. At Woolwich, fitting. To be ready for sea on 21st April.

**ROMNEY**, *Troop Ship*—Master Com. James Wood, 11th Jan. arrived at Plymouth from Cork and Mediterranean.

STEAM VESSELS.

**AFRICAN**—Lieut. J. West, Channel Station.

**ALBAN**—Lieut. Com. J. B. Roepel, 18th March arrived at Lisbon, 6 days from Plymouth; 20th sailed for Gibraltar and Malta.

**BLAZER**—Lieut. Com. J. Pearse, 14th Feb. arrived at Plymouth.

**COLUMBIA**—See West Indies.

**CARRON**—Woolwich, fitting.

**COMET**—Mr. Wright, Woolwich.

**CONFIANCE**, 2—Lieut. Com. J. M. Waugh, Hamoaze. See Mediterranean Station.

**DEE**, 4—See North American Station.

**FIREBRAND**—Mr. J. Allen, 28th March arrived at Portsmouth, and sailed for westward.

**FIREFLY**—See Packets.

**FLAMER**, 6—See West India Station.

**LIGHTNING**—Com. E. Belcher, *pro tem*. Mr. T. Allen, Dublin.

**MEDEA**, 6—Com. H. T. Austen. See Mediterranean Station.

**MESSENGER**, 1—Com. Mr. J. King. See Packets.

**METEOR**—Woolwich, fitting.

**PHŒNIX**—Woolwich. Ordinary.

**PLUTO**—Lieut. Commander J. Duffil, Woolwich, fitting. The Right Hon. Sir Henry Ellis, the new special Envoy to the Persian government, will take his passage about the end of the month, on board the Pluto government steam-vessel, now fitting out at Woolwich. The Pluto will convey the En<sup>d</sup> voy and suite to Trebisond, a seaport of Asiatic Turkey, on the Black Sea, whence they will proceed to Ispahan. The sum of £12,000 has been voted for the expense of this special mission.

**RHADAMANTHUS**—Woolwich. Ordinary.

**SALAMANDER**—Woolwich. Ordinary.

**SPITFIRE**, 6—Lt. Com. A. Kennedy. See West India Station.

**TARTARUS**—Lieut. Com. H. James. See Packets.

SURVEYING VESSELS AT HOME AND ABROAD.

**ÆTNA**, 6—Lieut. Com. W. Arlett, surveying the Canary Islands.

**BEACON**—Com. R. Copeland, surveying in the Archipelago.

**BEAGLE**, 10—Com. R. Fitz-Roy, surveying the coasts of Patagonia and Chili.

**FAIRY**, 10—Com. W. Hewett, April, sailed to continue the survey of the North Sea.

**GULNARE**, Hired Schooner—Capt. H. W. Bayfield, surveying the Gulf of St. Lawrence.

**INVESTIGATOR**, 16—Mr. G. Thomas, April, sailed for Leith.

**JACKDAW**—Lieut. Com. E. Barnett, 4th March at Port Royal.

**MASTIFF**, 6—Lieut. Com. T. Graves, surveying in the Archipelago.

**RAVEN**, Cutter—Lieut. H. Kellet, in company with Ætna.

**THUNDER**—Com. R. Owen, 3d March sailed for Honduras.

OFFICERS EMPLOYED IN SURVEYING;  
AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.

Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.



Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.  
 Lieutenant C. G. Robinson.—North Coast of Wales.

## PAID OFF.

MAGICIENNE—March 28, at Portsmouth.  
 BRITANNIA—April, at Plymouth.  
 CHAMPION, 18—C June '32, Commander Hon. A. Duncombe, 13th Feb. arr. at Barbados; 5th April arrived at Ply-

mouth; left Bermuda 19th March: 10th moved into harbour; April paid off.  
 RHADAMANTHUS—Woolwich.

## COMMISSIONED.

TWEED, 18—9th April, at Portsmouth  
 SAPHIRE, 28—10th April, at Portsmouth.

MAGICIENNE, 24—April, Portsmouth.  
 CLIO, 15—April, Portsmouth.  
 BASILISK—April, Sheerness.  
 PEARL, 20—April, Sheerness.  
 CHAMPION—April, Plymouth.  
 BARHAM—April, Chatham.

## PROMOTIONS AND APPOINTMENTS.

## PROMOTIONS.

CAPTAINS—J. Drake.  
 COMMANDERS—P. P. Wynn, G. Brown, (b) E. F. Frankland.  
 LIEUTENANTS—R. Collison, H. J. Lacon, C. O. Hayes, M. R. Lawless, H. Matson.  
 MASTER—H. N. Thomas.  
 PURSERS—J. Graves, H. Harris.  
 SURGEONS—G. Motley, A. K. Bal-lard.

## APPOINTMENTS.

ADELAIDE, Rev. Cut.—*Lieut.* F. Hire.  
 ANDROMACHE, 28—*Lieut. Mar.* J. F. Brittain.  
 ALBAN, St. V.—*Asst. Surg.* H. F. Osman.  
 BARHAM—*Capt.* A. L. Corry; *Lieuts.* F. Hutton, C. M. Matheson, K. Corbett, F. Shelly, J. H. Wyndham; *Master*, J. Davies; *Surg.* W. H. Hervy; *Purser*, H. B. Long; *Sec. Mast.* B. Burdwood; *Mate*, H. J. Giles; *Asst. Surgs.* R. Caldwell, F. Mansell, M. D.  
 BASILISK, 10—*Lieut.* J. G. M'Donald.  
 BEAGLE, Surv. V.—*Purser*, J. Graves.  
 CALEDONIA, 120—*Lieut.* C. C. Dawkins.  
 CANOPUS, 84—*Clerk*, T. Turner.  
 CHAMPION—*Com. R.* Fair, K. H.  
 COAST GUARD—*Coms.* J. Pritchard, P. Christie, H. Ellis, J. C. Fitzgerald, J. B. B. McHardy, Jos. Maynard, S. Meredith, W. Shepherd, H. E. Atkinson, T. Bushby, C. Basden, H. F. Sewell, A. Shillingford; *Lieuts.* J. M. Paynter, A. T. Morley, T. Thompson, A. Edwards, D. Woodriff.  
 COMET, St. Ves.—*Clerk*, G. R. Hallet.  
 CLIO, 16—*Com.* W. Richardson; *Master*, T. Morgan; *Purser*, W. Cotsell.

CRUIZER, 16—*Mate*, H. L. Griffiths.  
 DEE, St. V.—*Purser*, J. C. Harris.  
 DUBLIN, 50—*Lieuts.* Geo. M'Adam, R. Harris, B. Chaloner; *Mate*, P. Montresor; *Chap.* W. Lawin; *Sec. Mast.* J. Elliot; *Clerks*, H. S. Dyer, T. Malwin.  
 EXCELLENT, 76—*Lieuts.* E. H. Kenney, R. E. Bullen; *Mates*, G. Johnstone, J. Borlace; *Purser*, J. Maddocks; *Surg.* W. Price.  
 FIREFLY, 3—*Lieut.* G. Byng.  
 FLY, 18—*Lieutenants*, C. Ayre, R. Dowse.  
 GANNET, 16—*Mast.* (act.) R. Tilmer.  
 HYACINTH, 18—*Mate*, P. Dumaresque.  
 JUPITER, Troop-Ship—*Lieut.* R. Byron; *Master*, G. S. Northcote; *Sec. Master*, R. Godden.  
 JACKDAW, Surv. V.—*Mates*, G. Bam-ber, C. Ludlow, C. Cashman; *Master Asst.* C. Forster.  
 LAPWING, Packet—*Master*, P. Francis; *Asst. Surg.* E. Newman.  
 LIGHTNING, St. V.—*Com.* E. Belcher; *Lieut.* Jones.  
 LYRA, Packet—*Mast.* J. Burtwood, act.  
 MAGICIENNE, 24—*Capt.* G. W. St. John Mildmay; *Lieuts.* Hon. B. P. Larey, J. R. Lilburn; *Master*, B. W. Robinson; *Purser*, R. Trouson; *Sec. Master*, G. R. Nicholson.  
 NORTH STAR, 28—*Purser*, J. King.  
 OCEAN, 80—*Chaplain*, W. Bowman.  
 PEARL, 20—*Com.* H. Nurse; *Lieut.* H. Matson.  
 PIKE, 12—2d *Master*, C. Gaham.  
 PIQUE, 36—*Lieut.* W. B. Eastcourt; 2d *Master*, W. Lidstone, W. Bligh.  
 PLOVER, Packet—*Master* (act.) J. D. J. Edwards.  
 PRESIDENT, 50—*Com.* (act.) J. M. Currie.



RAINBOW, 28— <i>Pur.</i> L. R. Hornisnan; <i>Lieut. Mar.</i> A. Anderson.	SPARROWHAWK, 16— <i>Act. Purser</i> , T. Harris.
RAPID, 10— <i>Clerk</i> , W. Gibson.	SPEEDY, Cutter— <i>Asst. Surgeon</i> , J. M'Gowan.
RATTLESNAKE, 28— <i>Sec. Master</i> , J. Bateman.	SPRIGHTLY, Rev. Cutter— <i>Lieutenant</i> , T. S. Hewlet.
ROYAL GEORGE, <i>Yacht</i> — <i>Clerk</i> , F. Gulliver.	SWALLOW, Packet— <i>Asst. Surg.</i> H. D. Shea.
SAN JOSEF, 110— <i>Lieut.</i> A. Kortwright; <i>Assist.-Surg.</i> R. J. Scott, R. L. Jack.	TARTARUS, St V.— <i>Assist. Surgeon</i> , J. Taylor; <i>Sec. Mast.</i> A. P. Brickwood.
SAPPHIRE, 28— <i>Capt.</i> R. F. Rowley; <i>Lieuts.</i> W. Toby, C. M. Mathison, R. Spencer Robinson, J. Foote; <i>Mast.</i> R. Stewart; <i>Surg.</i> H. Burrell; <i>Purser</i> , W. Burke; <i>Assist.-Surg.</i> R. D. Pritchard; <i>Lieut. Mar.</i> E. E. Hunt; <i>Mate</i> , A. Jeffreys; <i>Sec. Mast.</i> J. F. M'Little.	THUNDERER, Surv.— <i>Pur.</i> J. Forster; <i>Assist. Surg.</i> M. Dovey.
SERPENT, 16— <i>Com.</i> H. M. Sweney; <i>Act. Purser</i> , H. Boucher.	TWEED, 20— <i>Command.</i> T. Maitland; <i>Lieuts.</i> J. R. Ward, J. A. Bate; <i>Mast.</i> H. N. Thomas; <i>Surg.</i> S. Mackay; <i>Pur.</i> D. Long; <i>Lieut. Marines</i> , A. J. Moleworth; <i>Assist. Surg.</i> D. Lowe.
SKYLARK, Packet— <i>Mate</i> , J. Harrison.	VICTORY, 104— <i>Surg.</i> G. King, M.D.
	VIPER, 6— <i>Sec. Mast.</i> D. Craigie.
	VULCAN, Rev. St. V.— <i>Lieut.</i> Connor.

We regret to announce that the Hound, revenue cutter, *Lieut.* Helby, and Swallow, *Lieut.* W. Crispin, were stranded in Weymouth Bay, on the night of the 27th March. It appears, as the former vessel was standing in shore, for the purpose of sending a boat on duty for the night, she missed stays, when she paid round off and struck. Her signals for assistance being mistaken for an alarm by the Swallow, (which vessel was in the offing,) she stood in to ascertain the cause, and unfortunately mistook the Hound (which by this time had sunk) for a vessel at anchor, and, in attempting to run under her stern, grounded.—The wind was at this time moderate, from the eastward, with, however, a considerable swell, and it was soon discovered that all attempts at getting either vessels off were useless; in fact, had it not been for the boats of the Swallow, which were ordered by *Capt.* Knight, the Inspecting Commander of the district, (who was early on the spot,) to the assistance of the crew of the Hound, they must have perished, having been obliged to take to the rigging and boom, from which they were with difficulty taken, the sea by this time breaking very heavy over her. The Swallow has been, (with the aid of *Mr.* Hepburn, the Assistant Master Attendant, who was despatched from this port on Sunday, with the Speedy cutter, and two dock-yard lighters) hove off, and now lies sunk at the entrance of Weymouth harbour. The Hound still remains under water, but, with assistance which is expected hence, it is confidently anticipated she will be raised, and found not to have sustained so much damage as was at first conjectured. The property of the officers and crew of the Swallow, as well as her stores, have been all saved, but we regret to hear that those of the Hound have not saved an article.—*Hants Tel.*

Every effort to raise the Hound, revenue cutter, having, after sweeping, been found unavailing, the buoy-boat and Lively cutter, with two dock-yard Lumps, returned from Weymouth this morning; with the assistance of these, however, the Swallow had been floated, and taken into Weymouth harbour, and she will be repaired.—*Hants Tel.*

The Court of Inquiry appointed to investigate the circumstances which led to the unfortunate loss of the two cutters, the Hound and Swallow, have commenced their proceedings, at the Preventive Station on the Nothe. It is not supposed the investigation will occupy any lengthened period.



## FALMOUTH, 20TH APRIL.

## LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
NAUTILUS .....	Lt. Com. W. Crooke ..	14 Mar.	29 Mar.	Lisbon....	11 April.
SCORPION .....	Lt. Com. N. Robilliard .	20 Mar.	_____	_____	15 May.
ESPOIR .....	Lt. Com. C. Riley .....	27 Mar.	_____	_____	24 April.
VIPER .....	Lt. Com. L. A. Robinson	5 April	_____	_____	3 May.
PIKE .....	Lt. Com. A. Brooking...	10 April	17 Mar.	Lisbon....	28 March.
PANTALON .....	Lt. Com. N. Cory .....	17 April	22 Mar.	Lisbon....	15 May.

[A Mail for Falmouth leaves Lisbon every Sunday.]

**MEDITERRANEAN**—(by steamers)—51 days; sails 1st of every Month.—*ROUTE*—To Cadiz, Gibraltar, Malta, Zante, Patras, and Corfu, and thence returns in the same rotation.

AFRICAN .....	Lt. Com. J. West .....	4 Mar.	13 Mar.	_____	26 April.
TARTARUS .....	Lt. Com. H. James .....	4 April.	_____	Gibraltar	_____

**NORTH AMERICA**—9 weeks: sails 1st Wednesday every Month.—*ROUTE*—To Halifax and back to Falmouth.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

DUKE OF YORK .....	Lt. Com. W. James ....	7 Feb.	_____	_____	11 April.
REINDEER .....	Lt. Com. H. P. Dicken ..	12 Mar.	_____	_____	14 May.
STANMER .....	M. R. Sutton .....	5 April	_____	_____	7 June.

**LEEWARD ISLANDS**—12 weeks: sails 3rd Wednesday every Month.—*ROUTE*—To Barbadoes, St. Lucie, Martinique, Dominique, Guadaloupe, Antigua, Montserrat, Nevis, St. Kitts, Tortola, St. Thomas, and Falmouth. Answers picked up by mail-boats and brought to St. Thomas to the packet.

TYRIAN .....	Lt. Com. E. Jennings ..	18 Feb.	_____	_____	13 May.
BRISIS .....	Lt. Com. J. Downey ..	18 Mar.	_____	_____	10 June.
SPEY .....	Lt. Com. R. B. James ..	17 April	_____	_____	10 July.

**JAMAICA**—14 weeks: sails 1st Wednesday every Month.—*ROUTE*—To Barbadoes, St. Vincent, Grenada, JAMAICA, Crooked Island, and Falmouth.

SHELDRAKE .....	Lt. Com. S. Griffith ....	4 Mar.	_____	_____	27 May.
NIGHTINGALE .....	Lt. Com. G. B. Fortescue	3 April	_____	_____	27 May.

**MEXICO, JAMAICA, and HAYTI**—18 weeks; sails 3rd Wednesday every Month.—*ROUTE*—To St. Domingo, Jamaica, Belize, VERA CRUZ, Tampico, Vera Cruz, Havana, and Falmouth.—[This Packet takes the Carthagena mail, which is sent to Jamaica by a Schooner, and returns to meet the regular Jamaica Packet.]

OPOSSUM .....	Lt. Com. R. Peters ....	20 Decem.	29 Jan.	Jamaica	25 April.
SEAGULL .....	Lt. Com. R. Parsons ....	17 Jan.	_____	_____	6 June.
ECLIPSE .....	Lt. Com. W. Forester ..	18 Feb.	_____	_____	8 July.
LYRA .....	Lieut. Com. J. St. John	19 March	_____	_____	2 August.
FLOWER .....	Lt. Com. W. Downey ..	17 April	_____	_____	4 Septem.

**MADEIRA, BRAZILS, and BUENOS AYRES**—20 weeks: sails 1st Tuesday every Month.—*ROUTE*—January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.—September to December inclusive: to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

GOLDFINCH .....	Lt. Com. E. Collier ....	9 Jan.	14 Feb.	Pernamb.	29 May.
PIGEON .....	Lieut. Com. J. Binney ..	6 Feb.	21 Jan.	Madeira	26 June.
LAPWING .....	Lt. Com. G. B. Forester .	14 Mar.	13 Feb.	Madeira	2 August.
SKYLARK .....	Lt. Com. C. P. Ladd ....	11 April	_____	_____	29 August.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

CAMDEN—Lt. Com. J. Tilley, 20th March, arrived from Jamaica.	PANDORA—Lt. Com. W. P. Croke, 8th April arrived from Brazil.
FIREFLY—Lieutenant Com. R. Baldock, 29th March arrived from Mediterranean.	PELHAM—Lieut. Com. W. Leslie, 9th April arrived from Mexico.
MUTINE—Lt. Com. R. Pawle, 13th March, arrived from Jamaica.	RENARD—Lieut. Com. G. B. Demasford, 4th April arrived from Jamaica.
MELVILLE—Lt. Com. C. Webbe, 19th March, arrived from Brazil.	SHELDRAKE—Lt. Com. A. R. Passingham, 8th April arrived from Jamaica.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 254.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
138 Alert	Routledge	Newport	Shields	Head Sand	4 April	Crew saved.
139 Bristol Pack.	Pill	Bideford	Bristol	Not heard of	since 27 March.	
140 Cottager	Boag	Newcastle		Off Whitby	14 Mar.	Crew saved.
141 Countess of Chichester	Thompson	Liverpool	Bonny	Not heard of	since 24 Dec.	
142 Favourite	Brodie	Dunbar	Lynn	Not heard of	since 2 March.	
143 Fitz Roy	Smith	Quebec	London	C. Iceland	5 Mar.	
144 Friendship	Sheen	Bridport	Jersey	Off Guernsey	19 Mar.	Crew saved.
145 Globe	Mann	Liverpool	Bahia	Off Bahia	8 Feb.	Crew saved.
146 Lancaster	Lethbridge	Liverpool	Africa	Cardigan B.	March	Crew saved.
147 Mentor		Newcastle	London	Not heard of	since 23 Feb.	
148 Swallow	Gregory	Poole	Bridport	Off Portland	15 Mar.	Crew saved.
149 William Mitchell	Wing	Jamaica	London	Bahamas	11 Feb.	Crew saved.

The Gazette of Tuesday, 21st ult., contains the announcement of a commission to inquire into the laws and regulations relative to the system of pilotage. The Commissioners are Lord Lowther, the Marquis of Bute, Sir T. Hardy, Messrs. G. Robinson, Aaron Chapman, Captain Beaufort, and Octavius Wigram.—*Hants Tel.*

**Births.**

On the 18th of March, at Marshal Hall, Dublin, the lady of Captain T. M. Mason, R. N. of a son.

At Southsea, the lady of Com. Parry, of a son.

At Michael's Grove, Brompton, on 20th April, the lady of A. Inderwick, Esq., Purser, R. N., of a son.

**Marriages.**

On the 2d April, at St. Paul's, Deptford, by the Rev. G. Prideaux, Captain Wm. Langford Castle, R.N. to Emma, second daughter of Captain Sir John Hill, R. N. Superintendent of His majesty's Yard at Deptford.

At Alverstoke, Lieut. J. B. Driffeld, R. N. son of the late Colonel Driffeld, to Emily, daughter of Capt. Carter, R.N.

At Malta, on the 10th February, Lieut. T. S. Brock, H. M. S. Beacon, to Miss Dickson.

At St. George's Hanover-square, Capt. James Hanway Plumridge, R. N., to Harriet Agnes, daughter of the Right Honourable Hugh Elliot.

**Deaths.**

At Cosgrove Priory, Northampton, Admiral Sir Robert Moorsom, aged 75.

After a lingering illness, Capt. Wm. Kempthorne, R.N., deeply lamented by his family and friends.

At Duffrin, near Fishguard, aged 96, Commander J. Morgan, R.N.

At Mere, aged 51, John Chafin Morris, esq. Capt. R.N. and son of the late Jeremiah Morris, esq. of Mere Park, Wilts.

At Malmesbury, Lieut. C. Strong, R.N. aged 51.

At the Royal Naval Hospital, Stonehouse, A. D. Wilson, surgeon, R.N. aged 41.

At Milford Haven, Commander Wm. Rush Jackson (1813), Inspecting Commander of that district.

At his residence in Bury Road, Capt. Negus, R.N.

In France, aged 37, Lieut. H. Twight, R.N.

On the 17th February, on board his Majesty's ship North Star, in the harbour of Rio de Janeiro, George Guy, esq. Purser of that ship, after a short but severe illness, regretted by his brother officers and shipmates.

At Edinburgh, on the 28th March, much regretted and respected, Captain John Fyffe, R.N. (1807), aged 84.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**MARCH, 1835.**

MARCH, 1835.													
Month Day.	Week Day.	BAROMETER. In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
								Quarter.		Strength.			
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
1	Su.	29.24	29.32	35	37	33	38	S.W.	S.W.	3	3	Gsr (2)	Osr (3)
2	M.	30.14	30.07	36	40	30	42	S.W.	S.W.	2	6	O.	Oq.
3	Tu.	29.68	29.78	44	46	36	48	N.W.	W.	10	8	Qbcm.	Qbcm.
4	W.	29.85	29.65	39	45	34	46	S.W.	S.W.	6	7	O.	Q'phr (3)
5	Th.	29.97	29.97	36	44	33	46	N.W.	S.W.	4	8	Bm.	Oqr (4)
6	F.	29.36	29.57	43	47	39	49	W.	N.W.	10	11	Bcql.	Qbcu.
7	S.	28.95	28.84	45	44	38	48	S.W.	N.W.	8	10	Qp (1)' (2)	Q'phru (3)
8	Su.	29.76	29.84	36	48	32	48	N.W.	N.W.	5	5	Bc.	Bc.
9	M.	29.22	28.92	45	49	36	50	S.W.	S.W.	2	6	Op (2)	Or (3)
10	Tu.	29.53	29.67	36	40	32	42	S.W.	W.	6	7	B.	B.
11	W.	29.55	29.63	47	49	34	52	S.W.	S.W.	8	6	Oqr (2)	Op (3)
12	Th.	29.65	29.71	48	52	40	53	S.W.	S.W.	7	8	Or (1) (2)	Opq (3) (4)
13	F.	30.16	30.22	38	47	32	47	S.W.	S.W.	3	5	Bcm.	B.
14	S.	29.98	30.02	46	53	38	54	S.W.	S.W.	2	4	Or (1) (2)	Bcm.
15	Su.	29.86	29.90	48	46	42	50	W.	N.W.	3	4	Or (1) (2)	Bcm.
16	M.	30.07	30.05	44	48	38	48	N.W.	N.W.	3	4	Bcm.	Om.
17	Tu.	29.85	29.75	44	49	40	50	S.	S.W.	2	2	Or (2)	O.
18	W.	29.94	30.02	41	45	38	48	N.E.	N.E.	3	4	Or (1) (2)	Phr (3)
19	Th.	30.28	30.25	36	43	31	43	N.E.	N.	2	3	O.	Bc.
20	F.	30.32	30.32	44	54	33	55	S.W.	W.	1	1	Bc.	O.
21	S.	30.25	30.21	47	51	45	51	S.W.	N.E.	1	1	Gr (1) (2)	Gr (3)
22	Su.	30.25	30.27	45	47	41	47	N.	N.	2	3	O.	Or (3)
23	M.	30.27	30.25	43	48	35	49	N.E.	N.E.	2	2	O.	O.
24	Tu.	30.33	30.37	43	45	38	46	N.E.	N.E.	5	5	Or (1)	Bc.
25	W.	30.56	30.54	38	45	31	47	N.E.	N.E.	2	4	B.	B.
26	Th.	30.46	30.35	34	45	28	45	S.W.	N.W.	1	1	M.	M.
27	F.	30.32	30.30	43	50	32	51	N.W.	N.E.	1	1	C'm.	O.
28	S.	30.20	30.13	42	44	36	43	N.E.	N.E.	2	3	O.	O.
29	Su.	30.11	30.01	43	49	31	49	N.E.	N.E.	3	3	Bc.	O.
30	M.	29.87	29.82	40	50	27	51	E.	S.	1	2	B.	Bcm.
31	Tu.	29.82	29.78	48	52	33	53	S.W.	S.W.	4	5	O.	Od 3) (4)

MARCH—Mean height of Barometer=29.925 inches; Mean Temperature=41.5 degrees;  
Depth of Rain fallen=2.30 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hail.
6 Strong Breeze.	l Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	p Passing temporary showers.
10 Whole Gale.	q Squally.
11 Storm.	r Rain—continued rain.
12 Hurricane.	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	. Under any letter indicates an extraordinary degree.

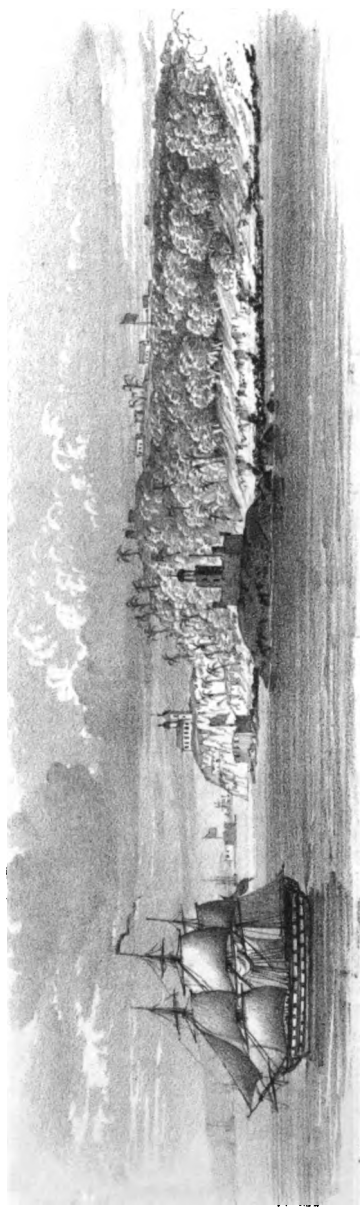
*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.



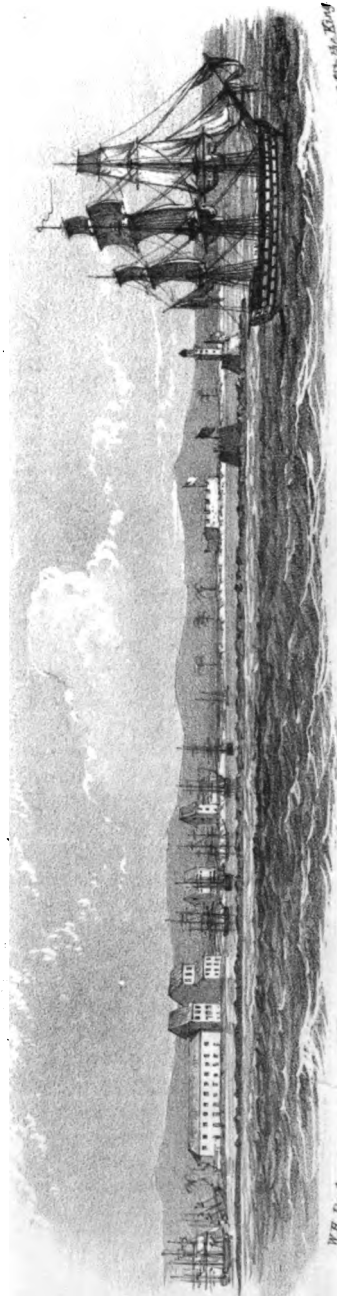






*W. H. Parker Sculp.*

BAHIA DE ALLAGUA LIGHT HOUSE, NEW



*W. H. Parker Sculp.*

PERNAMBUCO, BRAZIL LIGHT HOUSE, W. H. N. 2.

*Published for the Proprietors of the North-west Magazine by J. M. Smith, 1854.*

*Das Kgl. Hof- und  
Landes-Druckerei*



THE  
NAUTICAL MAGAZINE.

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JUNE, 1835.

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HYDROGRAPHY.

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"That future pilgrims of the wave may be  
By doubt unclouded, and from error free."

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29. DIRECTIONS FOR SHIPS BOUND TO PERNAMBUCO.

SHIPS bound to Pernambuco from the eastward should get into the latitude of the light-house, or  $8^{\circ} 4' S.$ , and run down in that latitude until they see the light, which is a revolving red and bright one, and may be seen at the distance of twenty miles from the mast-head in clear weather. When approaching the coast at night, the lead should be used; soundings will be got about the same time the land is seen from the mast-head; say in 50 fathoms, sandy bottom.

Should a vessel fall in to the northward of the port, and not see the light, great care should be taken not to run too far in, or into less than 20 fathoms, until day-light. The town of Olinda, which is situated on an eminence, is a mark which cannot be easily mistaken. It has a beautiful appearance when approaching it from the eastward in the morning. Indeed, it is the principal object of any notice along this part of the coast. Having got sight of Olinda, which is well known by its churches and other large buildings, the light-house and town of Pernambuco will next be seen a little to the southward. Get the light-house to bear W.N.W. and run in, in that direction; you will then avoid Olinda reef and Englishman's bank or reef. You may anchor in eight, seven, or six fathoms, about one, two, or three miles from the light; but do not bring it to bear any more to the northward than N.N.W. as you will be then in a rocky bottom, and near a shoal that lies a little to the northward of the Jangada Passage, and about a quarter of a mile from the reef. Should a stranger fall into the



northward of Pernambuco, a near approach is dangerous on account of extensive reefs that lie two or three miles from the shore. These reefs also extend as far to the northward as Itemerica. This is not the case to the southward of the harbour; for, from the shoal that lies off the Jangada Passage, before mentioned, to Cape St. Augustine, the ground is clear, with the exception of some small patches of reef that lie close in shore. Any more than these, and two small rocks that lie two miles to the northward of the Cape and close to the shore, are the only rocks or shoals that I am aware of on this part of the coast, except small pieces of reef or stone lying on the beach.

*For a Stranger to know when he is to the northward or southward of Pernambuco.*—When to the northward, the land will appear green and full of verdure, as far to the northward as Itemerica, and no appearance of any white banks of sand. When abreast of the north end of this island, three large cocoa-nut trees will be seen to the W.N.W. Olinda may be seen from the mast-head at the same time to the S.W.; you will also see a white fort, six miles to the north of Olinda, called Powel Marelo. Should the wind prevent a vessel from lying alongshore on the larboard tack, stand off until midnight, or morning, as the wind then is apt to blow at right angles with the shore, which will enable them to gain their port. Should a vessel fall in to the southward about Cape Augustine, the land is very remarkable, having ten or twelve cocoa-nut trees on its summit, and reddish banks of sand. There is also a large building among the cocoa-nut trees; but the most remarkable object about this part is some white cliffs, about three miles to the northward of the Cape. These cliffs are ragged and craggy, and appearing like clothes drying at a distance. Olinda will also be seen to the N.W. Should a vessel fall in to the southward of this cape, a large mountain will be seen, having the appearance of a saddle, and also two flat mountains, one on each side of the saddle mountain, bearing in a westerly direction, should the weather be thick so as the land cannot be seen far off: there is another remarkable object about six or eight miles to the southward of the light-house; namely, a church, situated also on an eminence, called Nossa Senhora das Prazeres, which has two steeples, and also a good mark for the harbour of Pernambuco.

*To enter the Harbour of Pernambuco.*—There are generally pilots employed to conduct vessels entering the port; but should none be convenient, get the vessel under way about two, or one and a half, hours before high water (if at anchor.) Should the vessel not be drawing more than sixteen or seventeen feet, the small ship channel (as it may be called) will be sufficient. Keep the two south turrets on Fort Broom in a line, which will lead you within twenty yards of the rock that lies to the north of the light-house; but this rock is steep close to, so that a vessel may luff



close round it, and keep close to the reef, if the wind permits, until within a cable's length of the lower tier of shipping, then drop the larboard anchor, and await the orders of the harbour-master or pilots. The bar of Pernambuco, or the shallowest water, is a little above Fort Pico, or the first gun, from this fort. Vessels drawing more than sixteen feet generally anchor in the Poco; that is, with the light-house bearing about S.E. distance two cables' length, where they may discharge part of their cargoes. This depends, however, on the state of the tides. Large ships discharge and load also outside the harbour to the westward of Englishman, and about three-quarters of a mile N.E. of the light-house. This anchorage is called The Well. Vessels lie moored in Pernambuco, with two anchors, down from the side next the town, and also two ropes or chains to the reef. Four vessels generally lie in a tier, and are sheltered by the reef, which is formed by nature, with the exception of a few stones, which have been laid down a little above Fort Pica. The sea inside the harbour is in general smooth, except at the top of high-water spring tides, when there is not only a heavy swell, but also a strong current rushing over the reef. In this case, good ropes or chains should be fastened to the reef. This only lasts about two hours at each high water during a few days, at spring tides.

There are several channels or breaks in the reef navigable on entering the harbour, and extending from the lighthouse towards Olinda. The first is close to the lighthouse before mentioned, about one furlong wide. The large ship channel is three-quarters of a mile wide, and clean ground. This channel is mostly used by ships outward bound, as it is wide and safe for turning out. The marks for this channel are the cross, and a white gable of a house, (a little to the north of Santa Mara church,) in a line, which will clear the danger, on the southern side of the channel, or the reef that lies to the north of the small channel. Then, again, by keeping Fort Bane open to the northward of a large building about half a mile inland, will clear the danger or reef, lying to the northward of this channel. There is also another break in the reef, or passage to the northward of this, but seldom used by large ships, as it lies out of the way for the harbour. On the north side of this there is a small rock, dry at low water. Here the sunken rocks terminate, leaving a fourth channel between this rock and Olinda, used only by coasting vessels.

*Olinda Reef.*—Leaving Pernambuco, great care should be taken not to stand too near this reef, as about the outer edge there are some rocks lying at some distance outside of it. The greatest danger of coming in contact with this reef is, when leaving the harbour late in the afternoon, with the wind so as it cannot be cleared without tacking. In daylight there is little to fear, as the broken water can be seen; but after the first tack, night



may approach, so that the breakers cannot be seen, and also a strong northerly current (which is generally the case with the wind from this quarter) which in this case requires great care. The safest way in this case is to keep well to the southward. The marks for clearing this reef in the day-time are the Camona, or highest church in Sant Antonia, open to the southward of the lighthouse, or the church with two steeples, lying a little to the north of the other, which leads a vessel still clearer of it. If at night, do not allow the light to bear any further to the southward than W.S.W. until Olinda bears N.W. by W. or W.N.W., a vessel will then be a good distance off shore.

*Englishman's Bank or Reef.*—The centre of the bank or reef lies about E.N.E. from the lighthouse, distant  $1\frac{1}{4}$  mile. The least water I ever found on it was 13 feet at low-water spring tides, and very uneven rocky ground. To clear this reef to the northward, keep the highest church in Boa Vista open to the northward of the lighthouse. To clear it to the southward, keep the south turrets of Fort Broom shut in with the lighthouse. The marks, when on the shallowest part of it, are the lighthouse and Boa Vista church in a line, and the largest cocoanut tree, situated between the two highest buildings in Olinda, in a line with an old decayed church, the lowest public building in the town. This bank or reef is not so bad as it is represented, except to vessels with a large draft of water, for when vessels are coming out of Pernambuco it is generally high water, when there is plenty of water over it. However, when tacking in the bay at low water, the former marks must be observed, as also when coming to anchor, give it a good berth to the southward, as with strong S.E. winds a very heavy sea sets into this bay. When at anchor too far to the northward, a vessel may drive on it before she could be brought up. The sea breaks heavy on it with the wind from this quarter, in the same manner as on Olinda, and other reefs to the northward of the lighthouse. On entering or coming out of the harbour with open boats, these breakers should be avoided, if possible, as accidents often occur with the boats getting amongst them. The pilotage in and out of this place is very expensive, although the pilots have no branch, yet it is customary for strangers to employ them, and even vessels trading to the port seldom refuse them. They are more serviceable in mooring and unmooring the vessel, than any great service they can render in coming in or going out. They have generally a good boat's crew, and some of them are very expert in diving, to clear away any thing that may be foul of the anchor, a circumstance that often takes place. Although there is one charge they make, that is, shifting the vessel down from the discharging berth to that of loading, which could be done without their assistance; still they force their service on you, and, under particular circumstances, a



master of a vessel is induced to take them. Vessels loading a sugar cargo in Pernambuco should not load deeper than 14½ feet until they go outside. However, this greatly depends on the wind; for, should it be from the S.E. quarter, and a good breeze, there is little danger of going over the bar, when drawing 15 or 16 feet, on the height of spring tides.

*Remarks on leaving the Harbour.*—Vessels generally begin to unmoor at half ebb, the tide previous to their going to sea, when they have plenty of time to get all their ropes or chains in, and the vessel winded, deck clear, &c. Should the wind be from the S.E. a good breeze, get underway one hour before high water. keep at a proper distance from the reef, and make all sail possible, luff close round the rock that lies to the northward, off the lighthouse, and observe whether the trees on Cocoonut Island open out to the eastward of the lighthouse; if they do, the rocks that lie to the northward of this channel will be passed to windward. Then there is only Olinda reef to fear. But should the wind be so as these rocks cannot be weathered, which can easily be seen by the cocoonut trees not opening out to the eastward of the lighthouse, (or the shipping in the harbour,) in this case, these rocks must be kept on the starboard hand, or passed to leeward, and therefore beat through the wide channel, as before directed. It is to be observed, that all these dangers, being to the northward of the lighthouse, are nearly in a direct line with the main reef; so that, when the shipping in the harbour are open to the eastward of the lighthouse, a vessel is then clear of them to the eastward, and, by having them open to the westward, the vessel may run along with safety, passing to leeward of them all; and by keeping the shipping in a line with the lighthouse, you pass on the shallowest part of them. Should the wind be so as vessels cannot lie along the reef, warping down then becomes necessary, and, before sail is made, they ought to be close down to Port Pico. Masters, or rather pilots, not taking this precaution, often get to leeward, a circumstance which is often attended with danger, and sometimes proves fatal. This was the case with the brig Alcides, which was wrecked in 1832 abreast of Fort Brown.

When ships are obliged to anchor outside, previous to their entering the port, which is generally the case, the masters usually go in with the boat, either to the King's wharf, or else alongside of a visit boat, with one mast and flag, lying inside the reef, a little above the lighthouse. The cargo is generally brought off in boats, or large launches, and attended with very little risk, as the distance is not great, and not much swell. From this advantage, and the regular sea breeze, the wall formed by nature with its strong guns for mooring-posts, that are proof against any accident that may occur, and the healthiness of the climate, this port may be considered one of the safest and best on the Brazil coast.



## PERNAMBUCO.

Time of high water, full and change,  $\frac{1}{2}$  past 4 o'clock.

Rise of water 8 feet spring tides, and 5 neaps.

Latitude of the lighthouse . . .  $8^{\circ} 4' S.$

Longitude . . .  $34^{\circ} 52' W.$

The highest tide is generally two days after full and change.

## 30. LUNENBURGH\* LIGHTHOUSE, NOVA SCOTIA.

*Halifax, March 23d, 1835.*

SIR,—In consequence of many complaints having been made of the insufficiency of the present distinguishing daymark of the unfinished lighthouse tower on Cross Island, near Lunenburg Harbour, which has been repeatedly taken for Sambro, and in some cases endangered shipwreck ;

The Commissioners of Lighthouses, in order to prevent as far as possible such mistakes in future, have chosen a more decided mark for the building, and have given directions for painting the tower and keepers *red*, and the lantern *black*. We therefore deem it necessary thus early to advise you of the intended alteration, that the Lords of the Admiralty may be apprized of the change without loss of time.

Signed, THOS. MAYNARD,  
J. H. TIDMARSH.

J. K. GLOVER, Esq. Naval Storekeeper, Halifax.

## 31. LIGHTHOUSE IN SLIGO BAY.

The Corporation for preserving and improving the port of Dublin, &c. hereby give notice, that a light-house has been erected on the Black Rock, in Sligo Bay, from which a light will be exhibited on the 1st of June, 1835, and thenceforth will be lighted from sunset to sunrise.

*Specification given of the position of the Tower by Mr. Halpin, Inspector of Irish Light-houses.*

The Black Rock bears by compass, from

Rathlee Head, Killala Bay,	E. S. E. $\frac{1}{4}$ S. dist. $15\frac{1}{2}$ sea miles.
Aughris Point, Sligo Bay,	E. h. S. 5 —
Blind Rock . . . . .	N. E. $\frac{1}{4}$ N. $\frac{1}{2}$ —
Deadman's Point . . . .	N. W. by W. $1\frac{1}{2}$ —
Wheaten Rock . . . . .	S. E. $\frac{1}{4}$ S. $1\frac{1}{2}$ —
Hawlbowlwing Island . . .	S. S. E. $3\frac{1}{2}$ —

The light, a fixed bright light, will be seen from S.W. seaward, to S.E. by S. and will be visible at a distance of 13 miles in clear weather.

The present light-house is built on part of the Black Rock Tower, and the lantern placed at the level of 74 feet over high-water of spring tides.

Ballast Office, Dublin,  
5th March, 1835.

By order,  
HENRY VEREKER, Sec.

\* See pages 323 and 130 of Vol. III. for further notices of this light.



## 32. LIGHT FOR FALMOUTH HARBOUR.

*"Trinity-House, London, 6th April, 1835.*

"Notice is hereby given, that in pursuance of the intention expressed in the advertisement from this House, bearing date the 12th February last, a Light on St. Anthony's Point, Falmouth Harbour, will be exhibited on the evening of Monday, the 20th instant, and thenceforth continued every Night from Sun-set to Sun-rise, for the guidance of Vessels entering or departing from that harbour.

"This Light will burn at an elevation of 65 feet above the level of the Sea at High Water Spring Tides, and will be visible in all directions from S. 40° E. round Seaward, and up the harbour of Falmouth. And in order to render it readily distinguishable from all other lights in that vicinity, it will present a quick but regular succession of *flashes* of brilliant light.

By Order,

*"J. HERBERT, Secretary."*

## 33. PAKEFIELD LIGHT.

*Trinity-house, London, 22d April, 1835.*

It having been represented to this corporation that vessels coming from the southward, and bound into Lowestoft Roads, have been led into situations of danger by mistaking the lights from the windows of houses upon the cliff at Kessingland, for the Pakefield Light—Notice is hereby given, that for prevention of such mistakes, this corporation has directed that a light coloured *red* should be exhibited in the lighthouse at Pakefield, instead of the present white light, which alteration will be carried into effect on the evening of the 14th of May next.

By order,

J. HERBERT, Secretary.

## 34. REMARKS ON TRIPOLI.

In addition to the remarks on this harbour by Capt. the Hon. R. S. Dundas, in our last number, we give the following by Capt. the Hon. F. W. Grey, R.N.:—

*July 14th to August 7th.*—In running for Tripoli from the northward, the Terhoona mountains, which lie from twenty to thirty miles S.E. of the town, first become visible. Soon afterwards the low line of coast will be seen, to the eastward of Tripoli, well cultivated, and thickly planted with date trees; to the westward, sandy and desert. This difference in the appearance of the coast is the only mark I know of, to point out to a stranger the position of the town, which is not easily made out at a distance.

In standing in for the land at night, a ship should not approach nearer than into twenty fathoms, in order to avoid the Kaliusa reefs, which lie from a mile to a mile-and-a-half off shore, and extend two and a half miles to the eastward of the harbour rocks.

In working up from the eastward, a good mark for keeping to



the northward of these reefs, is the tower and trees of Gargasch, a village about four miles to the eastward of Tripoli, and standing alone in the desert, kept open of the Round Fort, built on a detached rock under the north or sea wall of the town. I have tacked with this mark in sixteen fathoms. This anchorage in the winter I should consider a very insecure one, as the N.W. winds must cause so heavy a sea as to make it dangerous for a ship to remain at anchor, and difficult to work off. Even during our stay at this season, in two instances with very little wind, so much swell came in as to make communication with the shore very difficult. During the greater part of our stay, we had regular land and sea breezes, the latter generally fresh from E. and E.N.E., the land breezes S.W. and W. There was generally some current taking its direction from the wind, but very uncertain.

*October 1st to January 1st.*—On nearing the land by day, the harbour rocks will be easily made out, and a stranger may stand boldly in steering about half a mile to the eastward of the outward rock, until the mark for keeping to the northward of the Kaliusa reefs, which I have before described, comes nearly on. He will then without difficulty make out the consul's house and garden bearing S. 30° E. by compass from the outer rock. It is a dark-coloured house of two stories, (the lower one nearly hid by olive trees,) with five windows, the three centre ones in a semicircular projection. At the bottom of the garden there is a small summer-house, and between it and the house a still smaller temple with a white dome, which is very conspicuous on entering the harbour. I have been thus particular in describing the position and appearance of this house, as upon it depend the only marks, (very good ones,) for passing between the reefs and outer rock. They are as follow—

*Leading Mark in*—A black mark on the N.W. corner of the garden wall, on with the centre window of the house, leads in, nearly in midchannel, in from five to seven fathoms water.

*Mark for the east point of the reef*—The same black mark on with the temple in the garden, leads over the point of the reef in twenty feet water; if kept half way between the temple and house, it leads clear in five fathoms.

*Mark for the west point of the Kaliusa bank*—The summer-house on with the centre of the house leads rather close in four fathoms.

To run in, keep the leading mark on until the highest part of the mole fortification is open, to the southward of the harbour rock; you are then inside the reefs, and may steer for the Sultan's Tomb, (two small square buildings with domes, on this bearing nearly in one, about half a mile to the westward of the Consul's garden, until the temple comes on with the black mark.

(To be concluded in our next.)



## ORIGINAL PAPERS.

## I.—A REFUTATION of certain Strictures on the Geographical Situation and Localities of Tortola as a Harbour and a Roadstead.

MR. MONTGOMERY MARTIN, in an Appendix to the Second Volume of his History of the British Colonies, recommends that Tortola be made a free port, and shews the advantages which that island possesses over I. St. Thomas. His comparisons are drawn from such sources as he was warranted to consider authentic; nevertheless, a writer in the St. Thomas' Times, (No. 1866, Jan. 11th, 1835,) charges him with incorrectness, and observes:

"That the most able writer could not have visited personally all the places, but must often have had recourse to information from others, and it may often happen that those persons or writers may not have had a *true and practical knowledge of local circumstances*, particularly of foreign colonies. 'This,' he says, 'has been partly the case with the above-mentioned volume.'"

Mr. Martin, in compiling his History, drew his remarks, with regard to Tortola, from Major Moody's observations, and added to his Appendix O, a letter from the speaker of the House of Assembly at Tortola, of June 23, 1830, which was forwarded with a petition to both houses of Parliament, 'to grant Tortola the privileges of a free port, and to permit H. M. Packets to stop in Tortola instead of the foreign port of St. Thomas,' to Mr. Colquhoun, the agent for the colony; Mr. Martin's conclusions are, therefore, founded upon information of such persons as possessed a *true and practical knowledge of local circumstances*. As the remarks of the speaker of the House of Assembly would have borne at once a contradiction to the leading points in the above-mentioned article, its writer took no notice of it, and the superiority of its geographical situation as a rendezvous for vessels bound to Europe, might be doubted by those who have read his remarks, and are unacquainted with Tortola's localities; it gives me, therefore, pleasure, that, from my own knowledge, I am enabled to remove the strictures which the writer of that article has thought fit to throw upon the geographical situation and localities of Tortola as a harbour and roadstead. He observes:

"The author (Mr. Martin) can certainly not have visited Tortola and Saint Thomas', or examined the Chart of the Virgin Islands, which would shew him at once the vast superiority of the situation of St. Thomas' harbour, as a rendezvous harbour or free port. Road-harbour in Tortola has dangerous reefs by the entrance, and is surrounded with small islands all round for several miles: through the narrow passages and sunken rocks between these, the ves-



sels bound to Road-harbour are obliged to pass when the current is often setting at the rate of 3 to 4 miles an hour in different directions, and the wind between the islands, with light breezes or northerly winds, unsteady. Even the last packet, which had to land the mails in Tortola, before coming to Saint Thomas', was obliged, with a stiff northerly breeze—although she made several attempts to reach the harbour of Tortola—to bear up for St. Thomas', and from thence send her mails up to Tortola."

The examination of the Chart of the Virgin Islands, which the writer recommends, would at once make us doubt the correctness of his further remarks. What he considers an impediment must evidently to every navigator appear an advantage. The islands which surround the harbour of Tortola are not only a protection to the same, but as soon as the vessel has cleared the passage, she is at once in smooth water, and in a secure and safe anchorage, of which the West India Pilot, when speaking of the Virgin Islands, observes: 'Nature has placed in the middle of them a large bason, the finest that can be imagined, and wherein ships may lie at anchor, land-locked, and sheltered from all winds.\*' In rough weather it is very common for vessels, going to windward, particularly vessels from Porto Rico with cattle, to beat up through Sir Francis Drake's channel, between the small islands and the island of Tortola. Should the weather not have abated at their arrival at the Valley of Spanish Town, they come to anchor, and wait for a change; I have known three to four square-rigged and several schooners at anchor at Thomas' Bay. No instance is known of any such vessels being endangered by this navigation.

The principal channels that lead to this natural bason, known by the name of Sir Francis Drake's Bay, consist of four, which, with the exception of one between Salt Island and Dead Chest, are entirely free of danger, and the rock in the Salt Island passage is much less dangerous than the Packet-rock off Saint Thomas'.

Such an advantage, as the roadstead of Tortola possesses, is not shared by any island or islands in the West Indian archipelago, and it was subsequently during the late war selected as the rendezvous for the West India fleet—seven hundred sail have been known to be anchored there; and would they have been suffered to be exposed to danger, if any had existed? This is not probable—the advantages of this roadstead were too obvious to be overlooked; and there is no doubt, that whenever Great Britain should be drawn into another war with a naval power, it will be fixed upon for a similar purpose.

It is true, that at the entrance of the harbour of Tortola there extends a reef from its leeward point; but instead of being a disadvantage, it adds materially to the safety of the vessels anchored within, by breaking the waves during a southern gale, and prevent-

\* See Direct. for the complete West India Pilot. Lond. Laurie and Whittle.



ing a heavy swell in the harbour, while the extent of the reef is not considerable enough to narrow the entrance, which is spacious, and affords sufficient room to beat out or in, if the wind should prove contrary. 'A water-battery,' as it is observed in the letter added to the Appendix O of Mr. Martin's History, 'might be constructed on it, which would command both the harbour and roadstead, and be covered by the forts now built on the hills around.'

Northerly winds are by no means an objection to make the island of Tortola, as stated in the St. Thomas' Times: they are annually prevailing during the winter-months, and H. M. Packets, and other vessels, have never before been prevented fetching Road-harbour: the circumstance that the Packet during a stiff northerly breeze being unable to make Tortola in December last, is so uncommon and singular, that a similar instance does not exist in the recollection of the inhabitants at Tortola.

"St. Thomas' harbour," continues the writer of the article in the Saint Thomas' Times, "is situated on the south side of the island, has an open entrance without any danger, but what is visible, and a spacious harbour, able to hold 300 to 400 sail, with a depth from 3 to 6 fathoms water, and good holding ground. And the batteries and other distinctive marks by the entrance, and the town in front, make it also easy for large ships to enter the harbour even in a dark night without a pilot. In the careening hole are large moorings on shore, in which vessels may be secured, and lie as safe as in any harbour in the West Indies during the hurricane-season."

The approach to the harbour of St. Thomas is by no means devoid of difficulties—nay, they are much more eminent and numerous than in the neighbouring island of Tortola, where the approach is free of all danger. The British Admiralty appear to be aware of this, and the Commanders of H. M. Packets have received orders, to come to anchor off Tortola, if they arrive there after 4 o'clock P. M. as it is then doubtful whether they would reach the harbour of St. Thomas' before nightfall.

The Packet rock off St. Thomas', 'the principal danger, has been fatal to many, who either for the want of a proper knowledge thereof, or, which has been the case, did not even know it existed until they have unfortunately run foul of it.\* As it bears N 40° E. from the nearest point at Buck island, distance 1050 fathoms, it is almost in the very track of vessels coming from the windward, and bound for St. Thomas'. *It received its name from the circumstance that one of H. M. Packets was lost on the same, and it has proved likewise fatal to several mailboats with the mails on board. Buck Island and Green Island, both to the windward of the harbour at St. Thomas', caused similar accidents; while it is not known to me that ever a packet or mail-boat was lost on*

\* Descript. to the Chart of the Harbour of St. Thomas, &c. by L. J. Rohde, Capt. in the Dan. Navy, and Harbourmaster at St. Thomas S. 5.



*approaching or entering the harbour of Tortola.* A Danish man-of-war ran on the Packet-rock in 1820 or 1821, in the day-time, and was with great difficulty got into the Careening-bank in St. Thomas—she was on her way from St. John's to St. Thomas', going free.

Let us examine, however, furthermore, the dangers, when approaching the harbour of St. Thomas', and the next which vessels have to avoid is a coral-shoal S. W. of Green Kay, that certainly can only endanger vessels when beating up, as it is out of the track of those running free. The three rocks on the water's edge, called the Triangles, though visible during day from the constant breaking over them, are less perceptible during a dark night or a calm—and let me ask, did they never prove dangerous to the shipping?\*

We are now at the entrance of the harbour, and find on our starboard a rock with only 14½ feet water over it, though we have been assured, in the remarks quoted above, that every danger is visible—and this is not the only one, a shoal with 17 feet water lies almost in the middle of the anchorage.

Vessels from the leeward, bound for St. Thomas', have likewise to avoid various dangers, in the shape of shoals, rocks, &c. which lie to the westward of the harbour, and, as it frequently happens that European and American vessels make the Virgin Islands to the northward of them, they prefer to sail round the western end of St. Thomas', and beat up to the harbour; these rocks come now more or less in their track, according to the distance they stand in for the shore, and the current being there equally strong as in the passages between the islands to the southward of Tortola, the same objection exists on which the writer of the remarks in the Saint Thomas' Times lays so much stress.

The harbour of St. Thomas' not being protected by a reef or chain of islands, as in Tortola, a southern gale causes always injury, and frequently sets the vessels drifting. Heavy waves raised by the same find a free entrance into the harbour, and, their force not being broken, the shipping and wharfs are endangered. The correctness of this observation is proved by the southern gales in August 1830 and 1833, September 1834, &c. when the shipping in the harbour of Tortola did not suffer the slightest injury, while several vessels, and the wharfs in St. Thomas', were severely damaged. In August 1830, no vessels were lost in Tortola, but in St. Thomas' there were four or five; and several very nearly so, by dragging their anchors.

\* The British vessel, 'the Neptune,' Dawson, master, ran on one of 'the Triangles,' going into St. Thomas' at 1 o'clock, p.m., owing to the state of the atmosphere and smooth water.



The only instance where the situation of St. Thomas' might be more convenient, is with regard to vessels coming from Porto Cabello, Maracaybo, and other ports west of Laguayra; but, on the other hand, Tortola possesses the advantage, for vessels coming from to windward, by sparing them decidedly one, if not two days, not going so far to leeward.

Since peace has been restored, and St. Thomas' returned to the crown of Denmark, the British packets lie only off and on at Tortola until the mail is landed, and proceed to St. Thomas', where they are often detained 10 to 12 days, to wait for the arrival of the different mails. Under the existing circumstances, where the prosperity of the West Indies is so evidently on the decline, an island like Tortola, that, in consequence of its barrenness and exhausted land, cannot subsist upon its own resources, must labour under double disadvantages. Trifling as it may appear, the stopping of the two monthly Packets in Tortola, and the circulation of money, in consequence of their officers and crews spending part of their wages—the arrival and subsequent stay of passengers bound for Europe—their supplying themselves with the necessary articles for their voyage—all would tend to benefit Tortola's inhabitants; while to the *Danish colony*, St. Thomas', the trade of which is more prosperous and long established, their stay can be of little consequence. *And why, it may be asked, give to Foreigners an advantage which is refused to the inhabitants of a British colony?* When a petition to this purpose was sent from Tortola several years ago, it was asserted by the Postmaster-General, that it would be inconvenient for the Packet to wait at Tortola, in consequence of which the mail-boat from Laguayra probably might detain the Packet a day longer, having to beat up several miles more to windward; though it has frequently happened that the boat from the main, after leaving her letter-bags with the Packet in St. Thomas', and stopping there on her own account 24, or perhaps 48 hours, arrives at or passes by Tortola, on her return to Barbados, some days before the arrival of the boat from Barbados, following the Packet—and, as it is now very probable, that instead of the mailboats, steamers are to run between the islands, this arrangement would remove from Tortola, with its decided advantages, the only objectionable point.

A detailed and acknowledged chart of the harbour and roadstead of Tortola does not exist, but I am now making every preparation for an accurate survey of the same, and hope to be soon able to lay the result before my Lords Commissioners of the Admiralty, and do not doubt that if it meets their Lordships' approbation it will be ordered for publication.

Tortola, West Indies, February 1835.

ROBERT H. SCHOMBURGK, F. R. G. S.



## II.—THE SPEECH OF A NEW ZEALAND CHIEF.

The following speech of a powerful New Zealand chief will interest our readers, not only on account of the originality of the language, but as an unquestionable record of the conditions on which these people allowed cannibalism in 1834. We are, however, credibly informed, that a New Zealander has but little hesitation on these matters, and that he would as readily resort to this practice as he would eat wild hog.—The speech having been delivered from a written document, may be the more satisfactorily relied on as correct in its translation.

*Tarrawah, the Chief of the Clenched-Fist Tribe, to his younger brothers and principal Chiefs, on the raising the bones of their ancestors.*

### BRETHREN AND CLENCHED-FIST CHIEFS !

MEN, hearken unto the word of your chief, and learn from him wisdom in ruling. The sun witnesses the mightiness of our tribe ; and like my lord and chief, the omnipotent Tamihami, the sun gives warmth and vigour to all around. Tamihami is a man of peace, no man born is ignorant of his virtues ; and Tarrawah has been his man of war, and ruler over this province of Kakawoo for many moons. The sun rises, and finds, after a dreary night, Tarrawah and the Clenched-fist warriors faithful to themselves and their master. The raising of the bones of our ancestors is the day to arrange affairs ; and, as the warriors of the Clenched-fist tribe well know, it is the day appointed for consultation as to our proceedings for the next twelve moons.

Hear then, warriors ! your chief speaks ! Tamihami's scribe, I fear, is resting with his fathers, he has not sent his trusty messenger, neither has he made known to me whether Tamihami approve of my doings ; therefore, Clenched-fist chiefs, let us be guided by the wisdom of former times, and, in our conduct for the next twelve moons, keep in the same awe and trembling the cowardly tribes of Kakawoos, over which we rule ; let them and the slaves be made to keep the tribe of Clenched-fists in health and wealth.

My brother Moutaboo, the most beloved by the Clenched-fist tribe, and most dreaded by those of our conquered Kakawoos, deserves the first consideration. The wealth I gave to him at the last raising of the bones of our ancestors, was not enough, he wanted more—I gave him what he asked, and now he says slaves shall not serve him ; free men must be his scribes and servants, for no chief of the Clenched-fist shall be protected by a slave—are they not all “ tabooed ? ”

The white men who came from beyond the seas and mighty waters, and have bartered for the land of the Kakawoos, have not



had the land marked to them. The tribe of the Clenched-fist warriors say to them "pay," and leave it to the honour of Tarrawah, our chief, to complete the bargain. I, Tarrawah, say the measurer of land rises from his bed after the sun has topped the hills, and sleeps again at noon; he wasteth away his time with the females, or the bargains would be completed with those who come from beyond the sea. Tarrawah, the chief of the Clenched-fist warriors, is straightforward in his dealings: he selleth willingly that which he can take away again; but what is a ruler, could he not so act?—of what use would selling be, if the chief of the Clenched-fist warriors could not retake what is sold? The work of the measurer of land has been examined by some chiefs, who are my brothers, and who are his friends; the men know not the mysteries of measuring, they have reported favourably of the chief measurer, who riseth at noon and wasteth his time in mimicry. But I the chief, say, this will not do. Tamehami's scribe will hear of him—but the measurer has friends about the mighty Tamihami. Four chiefs of the measurer's tribe shall be taken away from him; he shall rise with the sun, or he shall no longer remain chief, and it is I, Tarawah, that say so.

Rodeika, the chief of the troops of the yellow-clothed and iron-grasped, cries out for more food and more clothing for his men, and the Clenched-fist warriors will give him what he asks; for the Kakawoos have yet wherewith to purchase food, and they must obey us their rulers, who hold their lives in jeopardy.

At the last raising of the bones of our ancestors, some chief said, let the builder of the palaces receive no more wealth. But I Tarrawah say, that palace must and shall be built, and a large number of men shall be employed by the Kakawoos for that purpose. The builder of the palaces shall have what he asks for, and men shall be ready if he wants more—for am I, or are my fellow chiefs, not to live in comfort, when the cowardly Kakawoos find the means?

The Clenched-fist warriors know that the troops of Rodeika, the chief of the yellow-clothed, and the workmen of the builder of palaces, are the slaves of Tamihami and the Kakawoos, and that these slaves are working for the Clenched-fist warriors, in making paths through the mountains, to the territory of their chiefs, and in building for the rulers of the Kakawoos.

The generous Tamihami sends food and clothing from beyond the seas to the troops of the iron-grasped. The Kakawoos see them labour and eat; therefore, shall they provide for the chiefs and commanders of these troops, and the chiefs of the yellow-clothed shall be numerous, every man of the iron-grasped shall have a ruler over him, to see that he does his duty to me, Tarrawah.

Therefore I, Tarrawah, chief of the Clenched-fists, command, that



slaves shall no longer be in authority over these troops, but free Kakawoos, and over these Kakawoos shall there be a host of learned chiefs, who shall take care that no tyranny shall be exercised towards the slaves of Tamihami. These learned chiefs shall examine the food and clothing of the slaves, and shall attend to their wants and wishes—for are not slaves of Tamihami of much more worth than the cowardly Kakawoos, over whom I, the chief of the Clenched-fist warriors, rule? Let the miserable Kakawoos starve; but let the slaves of our mighty Tamihami be well fed, or the scribe of our mighty chief will say, “Tarrawah and the chiefs of the Clenched-fists shall no longer command the Kakawoos.”

The last few moons, have we seen this good policy. Have not the slaves of Tamihami been well fed? are they not fat? and have not the Kakawoos been starving?

The country of the Kakawoos is daily becoming more thickly populated; men from beyond the distant water, come with their wealth, and live here; and as these arrive, so do the Clenched-fists enrich themselves. But did not Tamihami place the Clenched-fist warriors among the Kakawoos, that they might become great in the eyes of their fellow chiefs beyond the seas?

I, the chief of the Clenched-fists, have relieved the Kakawoos of one unnecessary chief, because it was my pleasure, that the command should be given to no one but the chief of the gillie-goulies, who is absent by command of Tamihami; but should that chief (my friend) not arrive shortly, it may be the pleasure of me, Tarrawah, to appoint another to rule in his stead, for the Kakawoos must be kept in subjection, and the more chiefs there are over them, the more difficult will it be for them to rise and complain to Tamihami.

The people coming from beyond the waters, have cried out for something whereby they may claim the land the Clenched-fists have sold them. Bits of skin, with marks thereon, shall be given them; and four chiefs of the Clenched-fists tribe, shall be fixed upon to give these skins to them. The Kakawoos, however, shall suffer, for they have complained,—the miserable Kakawoos have complained. The chief of the Clenched-fist warriors will, before the twelve moons are passed, make them pay dearly for their skins, if skins they have.

The chief who watches over the accounts of all the others has said, “give unto me assistance, I cannot work more; for the sun rises not early enough for me, and it setteth before I have finished.” The chief of the Clenched-fists says unto him, “as my friends, my brothers, have recommended, so assistance shall be given thee.”

The chief that takes for the Clenched-fists the share of the strong water the Kakawoos drink, says, “give me more help, or



the Kakawoos will refuse to sacrifice a share of their strong drink and clothing, for the Kakawoos are obstinate, and get their drink without sharing it with the Clenched-fists." I, Tarrawah, say to that chief, help thou shalt have, and the Kakawoos shall be made to pay for it. Are the Kakawoos to do as they please? I, Tarrawah, will let them know, that Tamihami placed the Clenched-fists to rule over them, and keep them in subjection.

The learned men in the law say unto me, "we want more help, we cannot keep, in proper subjection, the Kakawoos, without Tarrawah, our chief, gives unto us some other chiefs to assist us. The Kakawoos are an obstinate tribe, and must be ruined by being made to dispute and fight with each other; and can this be done without men learned in law?" I, Tarrawah, say, the men learned in the law shall do as they hitherto have done, they shall keep the Kakawoos in subjection; and such is the power given them by the mighty Tamihami, that even I, the chief of the whole tribe of Clenched-fists, cannot control them, and oftentimes they command even me.

The chiefs who see after the children, also complain, and say "we have not food sufficient wherewith to give the infants." Again, I, Tarrawah, say, let them have food, and let the Kakawoos provide it. Are the infants of the slaves of Tamihami to starve, and the Kakawoos to live? The scribe of Tamihami will assuredly send a messenger to me, and say, "return, oh Tarrawah, to account for thy ill-doing," but I say, rather let the Kakawoos all starve, and let the infants live.

These, my relations, and chiefs of the Clenched-fists, were the words which I had to say unto you; more I might speak, but as the power of Tarrawah and the men of law is unbounded, should any thing arise which may require alteration, it can be done before the next raising of the bones of our ancestors. Many young chiefs before that time will become rulers, and the elders will follow the instructions of Tarrawah, their chief, and see that at the next raising, the youths are tattooed according to the manner of our forefathers.

The support of the tribe of the Clenched-fists will require more for the twelve moons to come, than for those passed away; but the Kakawoos must be made to supply every thing necessary for the wants of our tribe; and if the Clenched-fists are in need of food, then I, Tarrawah, command that the bodies of those of the Kakawoos, who may refuse giving the food, shall be at the disposal of our tribe, who shall be allowed to steam or roast them as they may think proper. But I, Tarrawah, the representative of Tamihami, say unto the Clenched-fists, eat not Kakawoos, if they supply you food; for assuredly Tamihami, our mighty chief, will revenge their deaths, unless the Clenched-fist warriors can shew they had not wherewithal to put into their mouths.



What I have said unto you is after consideration. Tarrawah has deliberated, and his brothers, the next chiefs in authority, have consulted with him. What you have hearkened unto is the wisdom of the many. The scribe of Tamihami shall know what has been done at this raising of the bones of our ancestors, and Tarrawah is certain it will please him.

Chiefs of the Clenched-fist tribe, we separate. The ceremony has terminated. The manes of our ancestors are resting in peace, and we return to our homes. The sun is fast setting beyond the mountains of Kerrughee, and points out to us from whence we came. The Kakawoos are astounded at our movements; but let us remind them that they are but slaves to the Clenched-fist warriors. Let them know that it is their duty to serve, and ours to command. Twelve moons are to be counted, and then we again assemble to repeat the ceremony of this day. Remember, Tarrawah tells you now not to eat the Kakawoos as long as they provide food for the Clenched-fists; but if they fail, they may be either roasted or steamed, at your will and pleasure. The sun is under the hill—farewell.

[While we are on this subject, here is another morceau from another chief. The following letter, addressed to the king, was brought home by Mr. Sadler, the commander of the Buffalo.]

“King William,—Here am I, the friend of Captain Sadler. The ship is full, and is now about to sail. I have heard that you aforetime was the captain of a ship. Do you, therefore, examine the spars whether they are good or bad. Should you and the French quarrel, here are some trees for your battle ships. I am now beginning to think about a ship for myself. A native canoe is my vessel, and I have nothing else. The native canoes upset when they are filled with potatoes and other matters for your people. I have put on board the Buffalo a mere pounamu, and two garments. These are all the things which the Zealanders possess. If I had any thing better, I would give it to Captain Sadler for you. This is all mine to you. Mine, TITORE.”

“To William, King of England.”

### III.—THE EUPHRATES FROM BIR TO ANNA. *By F. R. Chesney, Captain Royal Artillery.*

(Continued from No. 39, p. 284.—See the Map in No. 38.)

BIR, or BIRA, on the left bank, is the well-known point of passage between Orfa, Diabekr, &c.; it contains about 1800 or 2000 houses, and is 17 to 21 hours with horses from Aleppo, and 3 and a half days by caravan: the inhabitants are two tribes of Turks, called Birk and Rashuan, who also extend during five or six hours along both banks of the river, downwards; and are described as being a quiet, safe people. This town would furnish rice, meat, flour, &c.; and depôts of fuel and provisions might be formed,



with the necessary arrangements for guards and horses to and from Aleppo.\*

Two hours below Bir, which, with the stream, would give 5 miles, are two islands, mid-stream, called Howage Turcoman, each rather more than a quarter of a mile long, and cultivated by those Turks who extend above three hours lower.

Seven or eight hours below Bir, on the right bank, is Salamia; and at 14, a little way from the left bank, *Bilha*, both ruins; here the Arab tribes *commence* that of Subha, extending along the right bank.

At 28 hours below Bir, and some little distance from the left bank, is Seluk, a ruin; here the Beni Said Arabs *commence*, and extend to Giabar, opposite which, on the right bank, are the ruins of Auz.

On the left bank, and at 35 hours' descent from Bir, stands the ancient castle of Giabar, built by Alexander the Great, and town, with about 1000 houses and tents, for the *first time* that any of the former are seen on either bank, there being nothing between this place and Bir but Arab tents; the river throughout this distance is comparatively sluggish, running over a sandy or pebbly bed, without obstructions.† Giabar is considered two horse-days from Aleppo, and from three and a half to four and a half by caravan, passing through a portion of the Beni Said and Aniza Arabs, Sheik Fahil, or Fyilia, being the chief of the former.‡ At this town, meat, eggs, rice, &c. are to be had, and there is an abundant source of bitumen in its vicinity. Below Giabar, and partially *above*, the Welda tribe *commences*, and extends to Bagarra; near Deir, with the Subha intermixed: the former comprises the small one of Bohammed, Bohamis, La Howas, Le Bray, El Bohabour and Bagarra; these Arabs have a *bad* name, and are, especially the Welda, greatly dreaded by the others; the river, from that portion of it occupied by the Turks, as far as Deir, being for this reason considered *unsafe*.

From Giabar to Ragga, Racca, or Aragga, it is about 8 hours: of this ancient town, only about 30 houses remain; it is on the left bank, and near to the spot where the river Belich, or Belejick, falls into the Euphrates.

Below the Belejick, and a little more than two hours from

\* I afterwards visited Bir, and found this correct; but the right bank seemed more suitable for the steamer.

† The person who gave me this relation (amongst others) made the voyage 14 years ago, in the month of October, with a cargo in the boat, and consumed 5 days of 7 hours each, between Bir and Giabar, without once having been obliged to *lighten*, which shews that there are no serious impediments throughout the distance in question.

‡ This Arab chieftain seldom fails to levy contributions on every caravan passing to and from Aleppo, through his tribé.



Giabar, the first obstruction *below Bir* is met with; it is called Dig-et-us Laik; here the river is impeded by some rocks, covered with about three feet water (or rather more) in the low season.

Three hours' descent (from Dig-et-us Laik) there is a camel's ford, called Howagi Mahommed el Zaid; here there is an island of about 400 yards long, and the ford opposite is from three to three and a-half and four feet deep; nearly up to the camels' bellies; and without rocks.

Three hours farther down, is Us Rayer, a rocky passage of about 150 feet long, with a *few* inches' fall; the rocks are hard, and covered with from 3 to 4 feet water.

Three hours lower is Tabooz, supposed to be a little farther down than the site of ancient Beles; \* there are about 200 houses at this place, and the inhabitants are called El Hool; it is distant from Aleppo three days with horses, and by caravan five. This spot promises to answer for the final halting-place of a steamer, if Bir were to be abandoned on account of the bad disposition of the Welda Arabs, who line the banks part of the distance upwards; and the choice would, in this case, most likely fall on Labtar, a very long wooded island, but partially cultivated, and uninhabited; therefore the more suitable for a small harbour and station.

Opposite to one part of Labtar island, is the camel's ford of Tabooz, with many large rocks, (some of them above water,) extending 150 yards, with a passage through them of 15 or 16 feet wide, and three feet water; here boats lighten a little in the low seasons, in order to pass.

Two hours below Tabooz is El Braylia island, with a camel's passage, having a pebbly bottom, and from three to three and a-half feet water.

Six or seven hours below El Braylia, is the island of Deir, and opposite to it on the right bank is the town, [once Thapsacus,] containing about 1500 houses; this place is distant from Aleppo four and a half days with horses, and eight by caravan; the Aniza and Zoba Arabs, one of their tributaries, intervene between Deir and Aleppo, along the caravan route. Deir itself is inhabited by the Bohabour Arabs, (split into several small tribes,) and this town would give supplies of meat, rice eggs, &c., and it would also be a safe halting-place; but rather too far from Aleppo to become a final one.

One hour below Deir is Mahada te Jeffra, and Ryane, a camel's ford, with a pebbly bottom, and four feet water; here the Aniza

\* The position of ancient Beles is not certainly known, but it seems to have been somewhere between Tabooz and Sheik Giabar, probably near the latter, and somewhere opposite to Rakca, where we still find the name of Mahada Beles; and where the bend of the river corresponds with the description of ancient writers.



and Shamar Arabs pass and repass, to fall *upon* and plunder the defenceless points of their opponents.

Three hours below Deir are the two islands called Rahabat, a quarter of a mile long each, and covered with large wood. The village of Rahabat, containing about 100 houses, is on the right bank; and a little lower, that of Myrham, of 150 houses, with the camel's ford opposite, having a pebbly bottom, and three and a half feet water.

Fourteen hours *below* Deir is Salhia, a camel's ford, with some soft rocks on one side of it; the passage for boats is the width of the river, the bank being 150 feet long, with three and a-half feet water.

The next obstruction is the camel's ford of Seesa, two days below Deir; the bottom is pebbly, and free from rocks, with a channel for boats of 16 or 20 feet wide, and 4 feet water, so that they do not discharge in order to pass. On the right bank are the Agidad Arabs, and on the left the Jebour.

Three days' descent from Deir, and a little above the tower of El Kaim,\* is the rocky passage of Is Geria; here, a ledge of irregular rocks, extending 150 yards along the river, crosses its bed, with the exception of a passage of 16 or 17 feet wide, and from two and a quarter to two and a half feet water over the rocks, at the low period of the year. The country boats at this place are obliged to discharge enough to reduce their draught of water to about two feet, and are dragged with the remainder along the right bank, until it is placed beyond the difficulty, when they return for the rest; this passage is considered *very difficult* by the boatmen.

One hour below Is Geria, opposite El Wardia mills, are the rocks of El Haib, a ledge extending along the river for 3 or 400 yards, broken and irregular, with one large rock rising above the water, between which and the right bank is the passage for boats, 15 or 16 feet wide, and about 4 deep, so that boats do not discharge to pass; but the steamer spreading above the water, would have nothing to spare.

Two hours lower is the camel's ford of Rayzela, 200 yards long, with a fall of one foot, and a sandy bottom, free from rocks,

\* Having first met the river at this place, the account of the higher portion of it (where I did *not* penetrate) has been derived almost exclusively from the Mahomet Gelgood, an experienced boatman of Anna, who has been accustomed to work on the river since his infancy; he remained with me between 3 and 4 months, and during this time I put his extraordinary recollection of localities frequently to the test, by recurring, after a lapse of time, to the same descriptions of which I had taken notes *before*, and as the latter answers corresponded wonderfully with the previous ones, as well as his relation of places I had myself visited, I have no doubt of the correctness of the details given; which have in fact been since corroborated by other boatmen who formerly navigated below Bir.



having two and a-half and three feet water; the boats discharge one-third, and find no other difficulty in passing.

One and a-half hours lower, between Roumia and Tine, is the camel's ford, called Sada, with a pebbly bed, and some rocks, leaving a passage of 20 feet wide in the centre, and 3 or 4 deep, which is not considered difficult for boats.

A little lower, at about three hours from Rayzala, (between El Bubia on the left bank, and Rafdé Castle on the right,) is the camel's ford, called Sultan Abdallah, with a pebbly bottom, free from rocks; the boat's passage is 20 feet wide, and three and a half feet deep, nearly up to the camels' bellies.

Below Tel Hafa mountain, and extending towards El Wahadia mills, there is a bed of rock for three-quarters of a mile, with a passage for boats of 15 or 16 feet wide, and three deep along the Arabian side, having a fall of more than a foot, up which boats are dragged with *some difficulty*.

Two and a half hours lower, are the four islands called Shaïdy, with the camel's ford of Shaitis, up to their bellies; with sufficient water in the middle of the stream for boats, but partially rocky.

Two hours further, near El Madia, are the hard rocks of Denia, extending 400 yards, with a passage of 15 feet wide, and 2 and a half to 3 feet deep, with a fall of 6 or 8 inches; the channel is along the right bank, and boats discharge a small part of their cargoes to pass.

Nearly opposite the mills of El Bramia, (right bank,) there is a bed of rocks extending 100 yards, having a passage 3 feet deep, without any serious difficulty.

Opposite the mills of Onia, (right bank,) there is a ledge of rocks extending half a mile, with some broken water over it, and a trifling fall, but the passage is wide, and from three and a half to four feet deep.

Near Jebige Mills, (right bank,) there is the camel's ford, called *Serasa*, having a pebbly bottom, free from rocks, with three and a half and four feet water.

Two and a half hours below Denia, at the island of Karabla, begin the rocks and pass of Bahalat, the most formidable of all; it consists of an irregular shelf of rocks extending along the river about 600 yards to El Bubia, (three quarters of an hour's descent to Anna;) the surface of the water is here broken by several small falls, one nearly two feet, with a depth of twenty-two inches, or 2 feet, over the rocks in the shallowest places. Boats discharge two-thirds at Karabla *descending*, and at El Bubia *coming up*, consequently making two or three trips with some 20 or 30 men employed to drag them up the falls, along the Arabian side, against the stream; and a steamer, must, in all probability, be taken up in the same way, as it is *doubtful* whether she could work up with the paddles.



When the river swells, these impediments no longer oblige boats to discharge, and common rafts of wood pass downwards to Anna, Hit, &c. at all times.

From the preceding details, it will appear that the bed of the Euphrates is very rocky from below Ragga to Anna, (about 170 miles,) but that the large-sized boats, carrying 14 or 15 feet breadth of beam, and that all the way to the floor, are enabled to pass the different obstructions *at all times of the year*, by lightening *less or more*; and that the least depth over the rocks is 2 feet or 22 inches, the ordinary depth of the river, were rocks and shoals *do not exist*, being from 6 to 9 feet.

A little below Karabla is the town of Anna, on the right bank, and prettily situated at a bend of the river, turning N. E., with a string of cultivated islands opposite to it. The modern town consists of one long narrow winding street, stretched along the bank, at the foot of a chain of hills, which leaves only the narrow strip occupied by the town, and its numerous date groves overshadowing the clay buildings; there are 2 mosques, and about 16 irrigating or wheat mills in the town, with their parapet walls, running from the aqueducts to the picturesque islands opposite, covered thickly with date trees, and forming a pretty contrast to the high bare hills, rising *abruptly* from the left bank, along which is the boats' passage as far as the last and principal of the islands, opposite which the modern town terminates, and the ruins of the ancient Anatho, the supposed capital of the Anakites, commence, covering the island, and extending eastward for 2 miles farther along the left bank. But the chief objects of interest are the remains of four ancient castles, one of them on the great island; also a beautiful Arabesque minaret, about 80 feet high. The streets of Anna are clean and good, remarkably so for an Arab town; the bazaars are *poor*, but afford common supplies. A good deal of wool is prepared, and some cotton. There is a manufactory of coarse cloth for Arab cloaks in this town, which is inhabited by numerous small tribes, principally subject to the great one of Shamar; the number of houses is about 1,800. Sheik Hussein, the governor, is a mercenary man, whose useful services may be obtained by an occasional present.

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#### IV.—THE VERNON, AND THE MEDITERRANEAN SQUADRON.

IN our last number we laid before our readers a letter from Capt. M'Kerlie, touching the sailing qualities of H. M. S. Vernon, under his command. Since then, official reports from the admiral and every captain in the Mediterranean, in command of ships with which the Vernon has tried, (a list of which will be found in Capt. M'Kerlie's letter,\*) have been sent home, amply confirming all

\* P. 286.



that her captain has said. We have received the following letter, which requires no comment from us.

*Caledonia, Malta, April 8, 1835.*

"From the various statements which have been published at different times, and opinions given by different officers, about the qualities of a certain ship on this station, and the eyes of all the British navy being fixed on her, as to find out *correctly* her various qualities; I mean that fine and noble ship the Vernon—I have been induced, from *personal* observation, to make a few remarks about her comparative qualities with other ships now on this station, which I here send you, as thinking them not altogether uninteresting, being facts which I can fully prove, and which have been admitted by all on board the Caledonia, as well as others in the squadron, to be most correct. I have the highest opinion of the ship, and do consider myself, from an experience of twenty-two years, nearly the whole of which time was employed on active service, to be some kind of judge on these matters; and in this instance I send them to you, as a *truly impartial* observer.

"I will begin, by stating to you that, on Sunday, March 15, the squadron, consisting of Caledonia, Edinburgh, Thunderer, Canopus, Malabar, Revenge, Vernon, Portland, and Endymion, being then on their way from Vourla to Malta, the signal was made, at 6h. 37m. A.M., for the frigates to try rate of sailing, their relative bearings from the admiral as follows: Vernon, N.N.E. 2 miles; Portland, N.E. by N. 2 miles; Endymion, N.N.E.  $\frac{1}{2}$  E. 2 miles: line-of-battle ships then in the order of sailing, in two columns. Admiral steering W. by N.  $\frac{1}{2}$  N.; wind N.  $\frac{1}{2}$  W.; ships under all sail; moderate breezes, and fine.

"At 7h. 30m. A. M. the *general* signal was made to try rate of sailing. At 10 A. M. the wind came sufficiently aft to allow fore-topmast and top-gallant studding sails to be set, which was done by all the ships, still steering the same course.

"At 1h. 15m. P.M. the wind headed, obliging the studding sails to be taken in, and yards braced sharp up, head W. by N. clean full.

"At 1h. 45m. P.M. Caledonia (flag) being then sternmost ship, the general signal was made to prepare to bring to the wind together.

"At 1h. 55m. the ships all shortened sail and hove to, but the Edinburgh and Revenge, being on the lee line, and so far to leeward, their signal was made to continue on. At *this* time Caledonia's log was hove to gain correctly her rate, and continued on every half hour, and oftener if necessary, until we reached the headmost ship.

"At 2h. 29m. we passed Malabar, being abreast, on Admiral's larboard beam, distant 4 cables' length.



" At 3h. 25m. we passed Canopus, being abreast, on Admiral's larboard beam, distant from Admiral 3 miles.

" At 3h. 32m. we passed Thunderer, being abreast, on Admiral's larboard beam, distant from Admiral  $1\frac{1}{4}$  mile.

" At 3h. 37m. we passed Endymion, being abreast, on Admiral's larboard beam, distant from Admiral  $1\frac{1}{4}$  mile.

" At 3h. 39m. we passed Portland, being abreast, on Admiral's larboard beam, distant from Admiral  $\frac{1}{4}$  mile.

" Caledonia going, between 2 and 4 P.M., six miles per hour.

" At 6h. 7m. we passed Vernon, being abreast, on Admiral's larboard beam, distant from Admiral  $\frac{1}{4}$  mile.

" Caledonia going, between 4 and 6 P.M., five miles per hour.

" Ships were hove to on starboard tack; and when we passed each ship, their signal was made to fill and make sail. In calculating from the above, according to the rate of sailing of Caledonia, I considered the ships to have been, when brought to, in the following position—

Malabar,	$3\frac{1}{4}$	miles ahead of Caledonia.
Canopus,	9	Do. Do.
Thunderer,	$9\frac{1}{4}$	Do. Do.
Endymion,	$10\frac{1}{4}$	Do. Do.
Portland,	$10\frac{1}{4}$	Do. Do.
Vernon,	$22\frac{1}{4}$	Do. Do.

but, on arriving abreast of each ship, and observing the frigates particularly had hove to, with main-topsail to the mast, keeping top-gallant sails, jib, and spanker set, I considered it necessary to gain more correctly their position, to allow for their forging ahead while hove to, I made this allowance for them—

" Vernon, 1 mile per hour; Portland and Endymion,  $\frac{1}{4}$  mile per hour; therefore, to be as near the truth as possible, to get it, they must have been as follows:—when hove to, Vernon  $18\frac{1}{2}$  miles ahead of Caledonia, Portland  $9\frac{1}{4}$  miles ahead of Caledonia, Endymion  $9\frac{1}{4}$  miles ahead of Caledonia.

" I did not take into consideration the line-of-battle ships, as they hove to different sail; besides which, their not starting with frigates. I was officer of the watch on board the Caledonia on the day here mentioned, and took correctly the time by my watch, and can vouch for the above being correct.

" On Tuesday, March 17, at 8h. 30m. A.M. the signal was made to Vernon and Portland to bear down on the Admiral's lee-beam E.N.E. 7 miles, and then to haul their wind together, and rejoin the Admiral, taking their station on Admiral's weather-beam: Endymion having previously sprung her bowsprit, of course did not join them.

" At 10h. 13m. A.M. both frigates bore from Admiral N.E. by E.  $\frac{1}{4}$  E. 5 miles distant, hauled their wind together on the larboard tack, under single-reefed topsails, top-gallant-sails, jib



and spanker, a head sea at the commencement of starting, having had a strong breeze the night previous.

"At 10h. 50m. wind moderated, frigates set whole topsails and royals.

"At 2h. P.M. Portland passed under our stern, on opposite tack, one cable-length distant.

"At 2h. 10m. Vernon crossed our bow, tacked, and took up her station. When both ships had tacked, Vernon was ahead of Portland  $1\frac{1}{2}$  mile.

"There were many other trials made, but, the frigates being so far from Caledonia, I am not enabled to make a *correct* statement. The frigates tried under different circumstances, in strong breezes, and on no occasion has Vernon strained a rope-yarn, whereas Portland sprung severely fore topmast, and Endymion her bowsprit, both requiring shifting, and under same situation as Vernon.

"These are facts which cannot be denied. I have been induced to send you this statement, being so thoroughly convinced of her superiority over all other ships; and I *do* hope that the system of ship-building adopted by Captain Symonds will be followed up throughout the British navy. I have seen also a great deal of Columbine, both here and in North America, and *impartially* say they are both fine men-of-war in every way.

V.—REMARKS ON STEAM NAVIGATION, *and on the Advantages which would attend a convenient Mode of Reefing the Paddles of Paddle-Wheels.*

SIR,—In your last number you have given an article on the subject of Paddle-Wheels, which is certainly not remarkable for perspicuity; indeed, I am not able to understand what the object of the writer was when he composed it; and I should not, perhaps, have referred to it at all, but that it reminded me of performing a task I had for some time intended to execute: viz. that of drawing the attention of the public, through the medium of your journal, to the advantages that would attend some convenient mode of reefing the paddles of paddle-wheels, and in which I intended to refer for my authority to several useful formulæ, given in a paper on the subject, by Mr. P. W. Barlow, published in the last part of the Philosophical Transactions.

The author appears to have possessed great opportunities of obtaining certain and unbiassed data, an advantage not to be obtained in general, for every captain of a steamer seems to possess a kind of paternal affection for his vessel, which blinds him to many faults, so that, in his estimation, she is all perfection; and where this feeling does not exist, motives of interest step in, which



leads him to state, "if the truth," yet not "the whole truth," so that any attempt to draw conclusions from information thus obtained, is entirely useless; and something of the same kind is, perhaps, practised by steam-engine makers, who use their best efforts, as your correspondent elegantly expresses, to "do the public" with misrepresentations. Mr. Barlow fortunately had the advantage of deriving his data from better authority. Every government steamer, before she leaves the river, is submitted to experiment under the superintendence of the proper officer of the yard: a mile is measured out on the banks of the Thames, the time of running the same carefully noted, and officially reported. Every requisite particular is also stated, such as the registered and actual tonnage, the amount of coals and stores on board, the power of the engines, diameter of paddle-wheel, areas of paddles, the number of strokes per minute made by the engines, &c., all of which were furnished to the author without restriction, and from such reports, and only from such, can results be obtained to guide the scientific engineer in producing the best effects.

It is not my intention, on the present occasion, to make a review of this paper; but in the following remarks I shall refer to it simply for those facts and formulas on which my observations are founded, and which relate principally to the advantages which would attend a convenient mode of reefing the paddles. Hitherto there has been existing, amongst those who have interested themselves in steam navigation, a desire to substitute a vertically acting paddle for that of the common paddle-wheel, and much ingenuity has been exercised, and great expense incurred, to effect this object. Amongst Mr. Barlow's experiments are included several with vertical paddles, and, notwithstanding he has shown most satisfactorily that the vertical paddle in the common wheel is the least efficient paddle, yet he appears to see some advantages in a wheel whose paddles all act vertically; a point, however, on which I must beg to differ, being decidedly convinced that a much greater advantage would be obtained by reefing the paddles of the common wheel.

In the earliest attempts at steam-navigation, it was thought necessary to adjust the immersion of the paddles to the lading of the vessel; and the means proposed were to raise or depress the wheel, according to circumstances. This was, however, found inconvenient, and not so effective as might be desired. The difference was then not known between the effect of raising the wheel and reducing its diameter; *from the former of which no additional speed can be obtained,\** although even in this way the shock which the engine sustains from a too great depth of immersion was in some measure relieved; but if, instead of raising the centre

\* Page 218, Phil. Trans. 1834. Part II.



of the wheel, the diameter of it be reduced by reefing the paddle, not only is this shock relieved, but the speed of the vessel is considerably increased.\* It appears from the paper referred to, that in the larger government steam-vessels, the cargo of coals for a voyage exceeds 300 tons, while the whole tonnage is not much above 800 tons. Such a vessel, therefore, when laden, will be immersed between two and three feet more than at the end of the voyage when this fuel and other stores have been consumed. The same fixing of the paddle cannot, therefore, answer throughout; in fact, for more than half the voyage, the paddles are drowned, and the engines are labouring against a resistance they are unable effectively to overcome, so that not more than three-fourths, and sometimes no more than two-thirds, or one half of the proper number of strokes, can be obtained, and, consequently, only a proportional part of the power of the engine can be exerted, although the same hourly consumption of fuel takes place, as has been proved by several weeks' careful observation in H.M. Steamer. Salamander.† In these cases, which necessarily occur in all vessels going long sea voyages, the great advantage of being able to reduce the diameter of the wheel at the commencement must be obvious; for by this means, 1st, the power of the paddle will be increased; 2dly, the engine will make the proper number of strokes, and consequently its whole power, instead of three-fourths or two-thirds, will be exerted; 3rdly, the shock on the machinery will be greatly relieved. At present it is impossible to start with these advantages, because, if the paddles were thus fixed at first, it must happen, as the vessel is lightened, the paddles would not have a sufficient hold of the water, the strokes of the engine would, therefore, be made quicker than steam would be supplied, and the strokes of the engine would be rendered uncertain and irregular. The only way, therefore, of meeting both cases is, to be able to adjust the paddles to the circumstances of the vessel. This evil, moreover, is not merely attendant on the great immersion of the vessel, but it occurs also in a strong head-wind, in which likewise the engines labour against a power to which they are inadequate, that is, the proper number of strokes cannot be obtained. Here then, again, the paddles should be reefed so as to allow the engine to do its proper duty. Another obvious advantage of reefing is, when a vessel is sailing with a fair wind. Let us suppose the sails to give a speed of eight knots per hour, it becomes a question, particularly in government vessels, whether, in order to obtain two or three miles per hour more, it is advisable to consume as much fuel as would under other circumstances give nine or ten miles per hour. One of two things, therefore, should in such cases be done; namely: either to reef three or

\* Page 219.

† Page 217. Phil. Trans.



four paddles quite out of the water, and to stop the engines, or, otherwise, to push the paddles out to the greatest extent, and thereby to obtain them the greatest possible assistance.

There are also other circumstances in which reefing every alternate paddle would be attended with advantage, for it has been shown by actual experiment, that in very rough weather half the number of paddles, and even less than half, have been found more effective than the whole number.

There can in fact be no question, that, to work a steam-vessel to advantage, the navigator ought to be able to adjust his paddles to the circumstances of wind, weather, and lading, as he has now the power of trimming his sails; and there can be no doubt, if he possessed the means, as much skill would be required and exercised in these adjustments, as in the management of the sails themselves.

A simple method of effecting this object is, therefore, I conceive, a great desideratum, and I offer these remarks with the view of drawing the attention of practical men to the subject. It certainly appears to me to be quite within the reach of very simple mechanism to effect it, and I cannot help thinking, that, if the full advantages of it were duly appreciated, we should not be long without the means of availing ourselves of them; and if ever such should be the case, our present practice will appear as absurd as we should now think it to venture to sea with sails and rudders unadjustable to the circumstances of wind and weather.

PHILO.

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## VI.—THE VETERAN SOLDIER.

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“ The brave poor soldier ne’er despise,  
Nor treat him as a stranger;  
For still he’ll prove his country’s stay,  
In every hour of danger.”

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THE young urchins were taking their last five minutes of play on the beautiful village-green at S—, in Devonshire, previous to returning to the school-room for the afternoon, and in the midst of them stood a tall but aged man, who appeared to be regulating the game with all the accuracy of a thorough tactician. I stood watching the interesting group of children, (of all ages,) whose actions were guided by the tall old man, and witnessed their parting, when the sonorous bell called them from their sports. They assembled round the aged mentor, and, in a broad Irish accent, he bade them mind their “larning,” and be good “childer.”

I entered into conversation with the veteran, and found he was a pensioner on the army, who had also a little property to live upon in the village of S—, which had been left him by an officer



whose life he had preserved at the battle of Talavera. Having an hour or two to spare, I requested to hear something of his history, and, with the garrulity natural to old age, he readily complied with my request. We seated ourselves on a rustic bench beneath a giant sycamore, and he began by telling me—but I cannot do better than give it in his own language.

“Faith, but your honour’s mighty condescending,” he exclaimed, “to listen to the chattering of ould Pat. Fifty years have marched off under General Time, since I first shoulder’d the firelock, and now I am daily expecting the route (for my billet is nearly expired) to assemble for the grand review before the sarcher of all hearts. Och, many’s the time and oft I’ve wished for some kind friend, that I might spake a word to, and unburthen my sinful spirit; for when I’ve stood sentry all alone by myself in the dark nights, in Ameriky and Spain, and in dare little Ireland too, I’ve thought, ‘Arrah, Paddy, but you are a great big blaggard, so you are, for running away from your ould mother that’s dead and gone, without so much as seeing her dacently laid under the turf. If she had been alive, it would have broke her heart, so it would, to think how her own beautiful Paddy should desart her in time of need, and not stop to see her waked.’ But, ’twas the dthrink, your honour, ’twas the murthering dthrink, and bad manners to Sarjent Linstock for that same; he laughed at poor Pat, and marched us off without bate of drum, saying that ‘she would never wake again;’ for I must be after telling you that there was a recruiting party came down to the fair, so they picked me out as the most likely lad on the sod; and, indeed, your honour, there wasn’t many in those days, though I say it meself, that dared tread upon my great coat, or call my shtick a rascal. But, as I said before, it was the dthrink, and then they chated me by slipping the king’s countenance into my fob, when I knew nothing about it at all at all; but they swore I had ’listed willingly, and had taken the picture meself. Och, by my conscience, didn’t I get into a thundering rage, sure!—not that I minded sarving his Majesty, heaven bless the heart of his soul, that’s in t’other world! but I thought it was not trateing me handsome, your honour, to trap me into it. But I found it was of no use to complain; so I went to bid poor mother good bye, and she’d just breath enough left to tell me not to disgrace the country that gave me birth. ‘Arrah, Paddy, (says she,) my own dare Paddy, that I loved so tenderly, and used to get the but—but—but—buthermilk and pra-pratees for!’ Oh, sir, ’tis a big shame to see a sodger cry; but when I think of the dare soul and the buthermilk, how can I help it? ‘Niver dishonour your cloth, Paddy, (says she,) nor the king you sarve, nor the father that begot you. Fight in a just cause, and when the vanquished cry for quarter, unlock the heart, and spare the hand. Protect the innocent, and do your duty like a man.’



"Then there was poor Norah, your honour. Och, hone, but I thought it would have broken my heart entirely, to see how the tears chased each other down her pale face! 'And why will ye lave me, Paddy, (says she,) all alone by meself? Oh, look at our cottage, and the peat-stack—where will you find the likes of it in another country, Paddy? Then, there's the bit of a bog yonder, for the pigs and the geese, and your own dare Norah, and the pratee garden. Oh, why will you go, Paddy, and lave me all alone by meself?' And then, your honour, I put my arms round her neck, (for I couldn't spake a word,) and my tears fell trickling on a bosom that looked like twin-roses moistened with dew. Oh, I niver felt before nor since as I did at that same moment! But then Mr. Sarjent must have his say, divel twist him to the right about round the rim of the moon; God forgive me, that I should have unchristian feelings tow'rd's the vilest of his creatures; 'Come, come, young man, (says he,) fall into the ranks and march; you'll soon find prettier girls to lead a wild-geese chase!' Bad manners to him for that same, to try and make my own dare Norah believe that her Pat would iver cease to love her as his own heart's blood; so I up and tould him I didn't like to be made game of. 'Well, well, (says he,) I suppose an honest sodger may have a kiss.'—'Arrah, dress back to the rear, (says I,) Mr. Sarjent, for, by me soul, if you lay but one of your thieving-hooks upon a digit of her corporal substance, faith! but I'll brake me arm across your face, so I will.' Well, your honour, and so he persisted in that same, and catch'd hould of her gown. Oh, 'twas more than Irish blood could brook, and, 'Lay there, jewel!' says I, stretching him along upon mother earth before he could cry 'whack!' and then they put iron mittens on me, and tore my swate love away. I thought me brain would have turned, and so they took me before ould Justice Ballymagfoglem, and poor Pat was committed for a rogue and a vagabond, and march'd off for Cork, under a military guard, and put into jail.

"A few days afterwards, and the transports were going to sail; so they trotted me down to the beach, and there I found a great many more like meself. Well, just as I was stepping into the boat, I heard the swate voice of my own dear Norah, and so I stepped back again. 'Jump into the boat! you mutinous rascal,' says the sarjent. 'Rascal yourself, (says I,) Mr. Sarjent; do you think his honoured Majesty, God bless him! would refuse me one last embrace from the dare cratur I'd broke the bit o' gold with? Arrah, be aisey now, and paws off,' for they began to handle me again, your honour. 'Let the poor fellow alone,' said the midshipmate of the boat; 'let him alone to spake to the girl.' 'God bless you! young jontleman (says I) for that same. May your father niver have to sorrow over your mother's son!'

"And so poor Norah came to me; but I couldn't throw my



arms round her neck now, your honour, for the bracelets they had clapped upon my wrists; but she stooped down, and got between them, and we were folded to each other's hearts. Oh, sir, I feel it at this moment, and hope you won't think the worse of poor Pat for the dthrop in his eye. Well, we were obliged to part; 'Oh, Paddy, (says she,) niver, niver forget your country, or your Norah!'—and bad luck to me, your honour, if ever I did—and she waved her apron till I saw her out of sight, and then I could have laid down and died. 'Niver forget your country or your Norah!' were her last words; and they have ever been engraven on my heart, by the same token that Corporal Flannagan, who had received a 'varsity edecation where he was brought up to run arrands and clean shoes, composed the beautifulest song,—oh, your honour, it would do your heart good to hear it. Faith, and it's here, I've got it, along with the bit of broken gold, and a lock of my own darling's hair, all black and shining; oh, they're a rich treasure to poor Pat. My hair was like it once, but now my head is silvered over with the snow of age; but my heart is as warm as iver, and melts with tinnerness, spite of the frost of adversity that has so often nipped it.

"But, to make the long of the short of it, and go on with my story; I was sent on board a transport, and the next day we sailed with the rest for the West Injees, and all the passage out I was drilled morning, noon, and night, till I was as thin as a pratee dibble; marching and countermarching between two guns on the deck, that wer'n't more nor six feet asunder; and what, with the sae-sickness, and the drilling, and the six-upon-four,\* I was almost done up by the time we got to Jemakee, where they make niggers of the poor blacks.

"Och! your honour, but that was the place for the yellow faver, and the land-crabs; and may-be I didn't get a long spell in the hospital, that made me as thin as a ramrod, and as wake as tea-water grog. But I got over that bout; though many's the brave sodger I've seen hearty and well at sunset, talking about home and the darlins, and a loathsome corpse before morning, and buried by daybreak. By me conscience, death gives but little more warning there than he does in the field of battle. Yet I got used to the place at last, and there I was made a corporal, and should have been contint but for the thoughts of my poor Norah.

"Well, many years after this, the regiment was ordered to the river Plate, and so we landed in Maldonado Bay, and took the island of Goretta. Oh, your honour, it made my heart ache to see the poor souls lie bleeding on the ground, and to be obliged to stick my bayonet into the breast of a fellow-cratur! But I thought of my ould mother's advice, sure—'Do your duty like a man.' After this, we sailed up to Monte Video, and I shall niver forget to remember that same, when we stormed the breach over a scaling

\* Six men upon four men's allowance of provision.



ladder of dead bodies that came tumbling down upon us as fast as we could get up. By-and-by, somebody fetches me the terriblest poke of the scone; it made the light dance in my eyes like sparks from a sky-rocket, and who should it be but my old friend Sarjent Linstock, sure, as dead as a red herring, your honour! 'Long life to you, jewel! (says I,) for taking yourself out of the way so dacently;' but my heart smote me as soon as I had said it. 'Shame to you, Paddy, (thought I,) to rejoice in the downfall of any man; you don't know how soon it may be your own turn,' and it struck me all of a heap entirely, so I stood stock still. 'On, on, my brave fellows!' roared somebody in the rear, giving me a prick behind with the bayonet; it made me jump like a billy-goat, and so I rushed on, headed by our brave captain, and we entered the town.

"Well, there was a comical fellow of the name of Taylor\* (he was a sailor commanding a private brig of war) advanced with us, having a bag of Union-Jacks over his shoulder, to hoist upon the batteries. When we got into the great square, ould Elio, the governor, stood ready with his troops to receive us; so we charged, and Taylor running on, knocked the ould fellow down with the bag of Jacks, and after that, och, but it was all dicky with them.

"'Arrah, Paddy, what booty have you got,' says Corporal Blacketer. 'Sorrow the scurragh,' says I. 'Och, hone, to your heart, look here!' says he; and so, your honour, he turns round upon his back, and puts his hand into his haversack, and pulls out a little silver image, that I knew at first glance was St. Peter. 'Oh, you tef o-the-world, (says I,) what, rob a church?'—'No, no, (says the corporal,) I had it from an honest priest, to redeem his *corpus-any-mule-he* from danger. And see here, (opening his cartouche-box, and shewing another,) and here, (tapping his knapsack that bulked out,) see here! I've got all the saints in the calendar dacently buckled up; faith, here's enough to make an almanack.'

"But what plased me most was, the good cheer we met with after our long voyage. I'll engage we wasn't long getting the

\* This anecdote of Taylor, I have since found to be correct. He commanded a small brig, and was commissioned by the Spaniards; so that when the English fleet first anchored off MonteVideo, he was under Spanish colours, having brought, in the most daring manner, a cargo of cattle for the city, which, being closely invested, was short of provisions. These cattle he landed in a small sandy bay, but payment for them was refused. That night he came out in his boat (a beautiful Deal galley) clandestinely to the English Admiral, and offered his services as a pilot, and also to bring off the cattle that was landed, provided he had a strong party from the ship to assist him. His offer was accepted, and he accomplished the undertaking. After the cessation of hostilities, he settled at Buenos Ayres, and acted as a pilot for the river Plate; but, on the declaration of independence, and the war between Buenos Ayres and Monte Video, he was appointed to command the squadron of the former. Since then, he joined Lord Cochrane, when Admiral of the Brazilian navy, and commanded a Brazilian frigate. He is, I believe, still in existence, and holds high rank at Rio Janeiro.



camp-kettles to work. Oh, there was beef and mutton for picking up, and turkeys and chickens enough to stock all the *uphoulsterers* in the united kingdom. Oh, your honour, didn't we live like fighting cocks, sure?"

At this moment, an elderly female called to the veteran from the door of a snug little cottage, mantled with evergreens, and surrounded by a garden neatly laid out, and kept in the most exact order.

"Faith, (said he,) but my baccy's ready; and will your honour condescend to walk into the cabin, to rest yees a little while?"

I told him my engagements would not at that moment permit me; but, as I should remain some time in the neighbourhood, I would most certainly visit him once more before I quitted that part of the country.

"I hope no offence," said he, "but I should be proud to do meself the honour of your acquaintance, so I would; and if you could make it convanient to give poor Pat a call now and then, 'twould cause joy to dance in his heart, and pleasure would stretch out the wrinkles in his withered countenance. Long life to your honour, and may God bless you!"

The veteran rose from his seat, gave his hand a military flourish to his hat, and marched off in ordinary time to his cottage; whilst I pursued my way to the residence of my friend, reflecting on the vicissitudes of life.

A few days after this adventure, I again visited the spot; and, on advancing to the village-green, I observed my friend Pat, with some twenty little urchins drawn up in a line, each with a broom-stick or mop-handle, going through the various evolutions of the drill-ground. He was in the first position for facing to the right; and the youngsters, with mouths and eyes wide open, were watching the motion.

Though seventy winters had spent their storms upon his head, he stood erect and firm, and at that moment would have been a fine study for an artist. "To the right face!" said he, and the motion brought him full in my front; his hand was flourished to his hat in an instant, and, from a countenance expressive of command, it changed to one of the most lively pleasure. "Oh, joy to the hour that I see your honour again. Faith, but delight is bateing the roll upon the drum of my heart, and every swate sensation is answering to the muster."

The children, no longer under control, were charging each other in front and rear, which annoying the veteran, he exclaimed, "Arrah be aisey, and don't be after making such a hubaboo. Double quick time, march!" and off they started, as wild as young colts. "Are any of these your own?" inquired I. "Oh no, your honour," he replied mournfully; "when the turf covers poor ould Pat, his lamp will be clane put out. But see at yon gossoon; oh,



it makes my heart ache to look at him, for he has never a friend in the world, nor in Ireland eather, save and beside myself, your honour. Sure, isn't he a darling of a boy, by token that he is the very image of my own dare Norah. Come here, Casey, and spake to the gentleman; don't stand rubbing your pate there."

A fine healthy lad, with long flaxen curls, approached, and took hold of my hand; but this did not altogether agree with the old soldier's ideas of etiquette, and he continued addressing the youth, "Run off, you ragged rascal, and let his honour alone. Don't stand grubbing with your ten toes, like a pig in a pratee garden. Faith, but he's off; and now perhaps your honour would like to know a little more of my history? But first I'll go back to the end, and tell you straight forward in a circuitous manner, that we mayn't set out in a round-about way.

"Sure, and wasn't it at Monte Video that you left me last? And faith, I might have staid there till death, and longer, but they ordered me up for Boney's-Airs, and och, hone, but we suffered severely at that place, marching up to our middles in water, without rations and without rest for three days. And then the assault—bad luck to the divil!—didn't we charge into the town with our bagnets, and nothing but our hammers in the locks? and that, too, where every house was a battery in itself, and we had no enemy to meet on plain ground? By the powers of Moll Kelly, but they knocked us down like bastes in a slaughter-house, and divil a rap could we give 'em again. Only think, your honour, of straight streets crossing each other at right angles, so that a nine-pounder at the end of one street was a defence for the whole; and then they pulled down a part of the cathedral, so that nothing might stop the shot.

"Oh, that was a terrible consarn, so it was, and many brave fellows lost their billet; for these Spaniards had an ugly knack of knocking the wounded on the head after they were kilt. Sure, wasn't I one of the party that stormed the Pizzelaro del Tow-row, where the bulls fight? and didn't we make a big bull of it? for how could we get at 'em, your honour, seeing there was not even the spoke of a ladder by way of staircase? Ah, then poor Pat tumbled down with a wound I got in the breast, and then I thought of dare little Ireland and Norah; and so I struggled to get up again, but all was of no use; so I fainted with the loss of blood, and there I lay, spachless and comical entirely.

"Well, when I woke, I heard a soft swate voice spaking to me in broken English; it was just like Norah's, your honour; and so I opened my daylight to take a peep at the angel, for I thought it was her own dare self come in a phantomical manner to cheer my weary spirit, about to quit this world of trouble, only I couldn't make out the brogue; but not a soul did I see, saving and except a young officer, in the uniform of a Spanish hussar, kneeling by my



side, and feeling my pulse, which was now bating the dead-march. The creature started when I shewed my peepers, and the cap flew from its head. Oh, I shall never forget to remember that same, for it was a woman, your honour, and her long auburn locks came clustering down her forehead, and she looked like a commander-in-chief of the cherrybums. Oh, she was beauty's queen, and a countryman of my own; for, though French by birth, she was married to a son of the sod. Long life to her, whether she's dead or alive, for her kindness to poor Pat! for didn't she have me carried by the viceroy's servants to snug quarters, where my wound was dressed, and the ball distracted? Faith, and she did, your honour, and many more besides me; for, after the battle, having a regard for the brave sodger, and knowing that many lay bleeding on the ground, she put on the regimentals of a captain of hussars, as one of General Linier's aids-de-camp, and rode through the scenes of carnage to stop the murderers' hands.\* Oh, wasn't she a darling of a soul? Ax General Beresford, your honour, for he knew her very well, by token—but that's none of my business to notice; only 'twas whispered as soft as a peal of bells, that they found his image in wax-work, all alive and kicking, your honour.

"But the worst of it was the loss of our colours, that hung dangling in the church of San Nicholas, where the brave Sir Samuel Auchmuty had suffered so much, and was compelled to surrender; but that was a sad job, to make the most of it, and all through the treachery and cowardice of Whitlocke, bad luck to his powdered fiz-hog. But the colours, your honour, oh, didn't they stick in my gizzard, sure? and so I spoke a word or two about it to my ould comrade, Corporal Blacketer. 'What's to be done?' says he. 'Arrah, dacently walk off with them,' says I. 'How's that?' says he. So, seeing he had no liking to the matter, I was obliged to close my chather-box, and soon after we sailed down the river.

"Well, about two years afterwards, an ill wind blow'd me there again, and I couldn't help going to take a sly peep. Oh, didn't I get into a big rage, sure, when they struck like a blight upon my eyes? 'Oh, Paddy, (says I,) twig 'em, and take shame to yourself for not dislodging them from their height;' and so it bothered me night and day, your honour, that I couldn't slape a wink, nor ever cease to think of it while waking.

\* I have since ascertained the accuracy of poor Pat's statement. The lady was Madame O'Gorman, a native of the Mauritius, and married to Captain O'Gorman, brother to the great counsellor of that name. She was a remarkably fine woman, and possessed great influence over Liniers, the viceroy. Bold and daring in her manners, and of an interesting disposition, she attended the viceroy during the battle, habited in the dress of an officer of hussars; and, after the failure of the attack, she rode through the town, at the imminent risk of her life, to protect the wounded. Her brother was in the Spanish service, and was one of the officers present when Sir Samuel Auchmuty surrendered his sword.



"Well, one evening Jerry Driscoll and meself were ashore, taking a sup of the cratur. Jerry was a broth of a boy, and knew that two and two made five, when his own ugly mug was shoved in to balance the account. He was a blue jacket, your honour, belonging to a sloop of war. 'Arrah, Jerry, (says I,) shall we do the thing?'—'Faith, and we will, (says he,) and the more by token, that they have stuck the bunting up!' as indeed they had, your honour, with R.M.B. on it, for Royal Marine Battalion. So, when night came, off we set with a long rope, and got safe into the middle of the centre of the church, and clapp'd ourselves in ambush clane out of sight, where nobody could see us.

"About midnight, 'Now, Jerry, (says I,) you must mount a reev-o; only take care the rope does not get round your neck.' Well, just as we were going to begin, we heard the most terriblest noise; and what should it be but one of the padres, who had been sipping the supernaculum and fallen asleep in the sentry-box—arrah, the confessional-box, I mane. Bad manners to him for stretching his daylights, and prying into honest men's affairs. Oh, your honour, he roared like a pope's bull, and out he came, as big as three moderate-sized aldermen. 'Arrah, be aisey,' says Jerry, giving him a thump in his rotunda, which would have held a cathedral, 'can't you behave yourself, jewel?' Thump went Jerry again, till his corporation sounded like a big drum, or a Chinese gong. The sentry peeped in at the church door; Jerry twigged him, and cotched the friar round the neck, and down they rolled together, both roaring with all their might. 'Arrah, Jerry, (says I,) don't you mane to get up?' 'Oh, the murdering rascal, (says he,) don't you see how he's using me?' and indeed, your honour, the padre was belaboring him entirely with both his fists. I ran to assist, but a sarjent entered with the guard.

"'What's the matter here?' says the sarjent; for he was a countryman, your honour, that had deserted from Whitlocke's army. 'Oh, by my conscience, (says Jerry,) but that same fellow is a thumping rogue, so he is.' 'Be aisey,' says the sarjent; and so he spakes to the padre in broken Spanish, and tells him to get up; but he couldn't do that thing till the sodgers lever'd him up with their firelocks. And then he tells them a long story about his being asleep, and dreaming that somebody was trying to steal the Virgin Mary, and that San Nicholas tweaked his nose, and that he woke and cotched us at it. 'Do you hear that?' says the sarjent. 'Faith, and I do,' says Jerry; 'but sorrow the silly-bull do I understand at all, at all. All I know of the matter is, that we were passing by, and heard the poor jontleman hollaing; so we ran in, and thinking he'd got the cramp in the stomach, I rubbed his *eminnence* a little; when the ungrateful fellow knocked me down, and threw himself on the top of the outside of me, and I'm almost mumm'd to a jammy—arrah, no, jummm'd to a mammy—och,



botheration, it's jamm'd to a mummy I mane.' 'But what's that rope?' said the sarjent, pointing to it. 'Oh, the sinner,' says Jerry, 'and sure he was going to hang himself, but didn't like it; faith, but it's all plain enough now, Mr. Sarjent, and by the powers we've saved his life.'

"However, your honour, they marched us off to the guard-house, Jerry and I; and there we staid till morning light, like the babes in the wood, our hearts bateing the tattoo all the time, for we'd no great relish to go to the mines for life. But, joy betide the friar; he made it all out to be a miracle, and so we were released for the honour of San Nicholas, in spite of the thwacks he got in his corporation, that would have held a whole bench of bishops; and so the colours hang there till this time, your honour, unless they've taken them down since. Happy enough we were to get out of that, and they said the friar would be *cannonized*; but Jerry swore they should ram him into a *mortar*, or marry him to the gunner's daughter, before he would go color-staleing again, with a vengeance to it."

I left the old man, with a promise of visiting him again; and in a few months afterwards, being in the same part of the country, I strolled towards his usual resort, the village-green. There was no busy hum of voices—no cheering laugh, or infantile prattle; the grass grew as luxuriant as ever, but the children were listlessly scattered about, as if they had lost the common tie which once had bound them together:—the veteran was no more. In a corner of the churchyard, below a time-shattered elm, was a turf-raised mound, and beneath it lay the mouldering remains of poor Pat. It was a lonely spot, and the villagers took delight in keeping it clear from weeds. A few wild flowers blossomed around, and some rustic hand had carved a rude memorial on a slab of wood. There were guns and swords neatly cut at the top, and underneath was ciphered a plain P. M. Below these letters appeared this simple elegy—

*A Soldier's Grave.*

It was enough, and its language spoke more closely to the heart than all the pompous eulogies which deck the monumental urn, or sculptured tomb. It was indeed a soldier's grave, and a sailor's tear was shed upon it.

[We have taken the foregoing from an entertaining work entitled "Tough Yarns," as we promised in page 749 of our last volume.]



## VII.—HALL'S IMPROVEMENTS ON THE STEAM ENGINE.

SIR,—Correct information as to the principle and construction of the Steam Engine is of immense importance to all classes of his majesty's subjects, but, if possible, more particularly to those who may be expected to have the control of those enormous and powerful engines of destruction, our large-class steamers, in the event of a war.

Let a naval officer be the best and bravest seaman, if he possesses not the aforesaid knowledge, he is under the control of another, and of one generally taken from a class of society unable to appreciate the advantages of the little knowledge he possesses; there are several excuses by which he may prevent the sailing of a ship if he thinks proper, without the risk of detection, if his officer is unacquainted with the principle of the machine by which he is propelled. This state of things will never be improved until the Government holds out inducements to young men of respectable connexions and superior education to embark in this study, by giving them a proper rank and pay. I am convinced numbers would be found immediately to enter the service, eminently qualified in every particular, especially in the theory, working, and operation of the steam engine. Make them responsible parties, and you would soon find your machines work more effectively, and your boilers last a little longer than "10 months."

I am pained to observe the apathy with which naval men treat the acquirement of such knowledge; I have had several opportunities of observing it, and have found not a solitary sample of "want of taste" for so interesting a portion of science. Now, I think it "materially concerns" the aforesaid, that no wrong impressions should be disseminated among them, which would tend to confound rather than improve. And notwithstanding the authorities and statements brought forward by Mr. Hall, as detailed in your March number, I think I am prepared to prove them mostly erroneous.

I shall take his assumed advantages *seriatim*; but as articles 3, 5, 6, and 8, depend on the accuracy of the remaining five, I shall pass them. Then,

1st. Consumption of coals reduced 1s. 3d.

Now, where has this been proved? certainly not in the City of London; but as article 5 allows that the principal saving arises from the scale formed by the depositions of salt being prevented, I will agree that her station is not a fair criterion to judge by, as the boilers are never blown out on a passage so short; and a great portion of it being performed through fresh water, very little sediment either of mud or salt is found at the end of each voyage. But



I do maintain, that an accumulation of salt would be found in a boiler, after a Mediterranean voyage, (the water of which appears to be very deleterious,) even if proper attention is paid to the "blowing off" in moderation, by which a trifling loss is suffered, but nothing like one-third as stated by Mr. Hall. This statement is met by comparing land with marine engines; in the former there is neither mud nor salt, and yet the consumption of fuel in *comparison to actual power* is the same, strange as it may appear, the deception arising from the fact, that land engines are seldom *fully* loaded, while marine engines are always so. Large boilers are never, to my knowledge, adapted for the purpose of obviating an inconvenience which ought not to arise, though they are by far the most economical; you do not require to force the fires in case of bad coals, and the extra space occupied is met by the saving in fuel.

But so much depends on the amount of power *actually* exerted, that until I see some proof beyond mere assumption, such as "the power of the engines is not in our opinion diminished," I must remain a sceptic on this point; and if you deteriorate the actual power, where is the improvement?

2d. A considerable increase of power arising from the invention.

It is easy to make an assertion, but such is no argument; and I defy Mr. Hall, nay, I here challenge him, to prove this point satisfactorily to the minds of practical men, who are acquainted with the subject. What is there to produce it? Does he mean to infer that it results from a reduction of friction arising from the employment of a less air-pump; if so, the increase is not considerable; and, query, is not such counterbalanced by the friction of cold-water pump. The oil-saving apparatus, &c., by the bye, is "too bad." Well might Capt. K. B. Martin observe, "The oil is not *yet* of sufficient depth to draw off for use"—after a season's running; and that almost daily. But this brings me to the consideration of article 7, in which lies the whole difference between us. Vacuum, sir, vacuum, is the point; and that Mr. H. has failed in beating the common condensing engine in this important particular—by his own data will I shew him.

It should be observed, that, there is a great difference between land and marine engines, in consequence of the condenser of the former being placed in a cold-water cistern, and therefore we have the advantage of Mr. H.'s plan: although not carried so far we have external surface, and injection also; added to this the coldness of the water, and the surrounding atmosphere of the well, compared with the heat of the vessel's engine-room, the shorter stroke, and working of the ship, whereby the joints are sometimes injured, and a higher vacuum is obtained on land than at sea, which fact it is necessary to keep in mind, that the proper distinction may be made.



Now, I had the pleasure of conversing with Mr. Hall at the Mechanic's Institute, on the occasion, I think, of Mr. Hemmington's lecture on his engine. I saw there men, eminent engineers indeed, all of any celebrity in this part of the kingdom; and if the expression of the countenance is any indication of the thoughts of individuals, I did not think the lecturer made much impression; he did not much alarm them at the prospect of their stock in trade being thrown on their hands, and their shops shut up. Admiring so much as I did the neatness and beauty of his working model, I could not but regret its hidden blemishes, for such is complication.

Among other matter, it was stated that the vacuum was improved, so much so—(I have a distinct recollection, for I made a note of it which I have before me)—that they got generally  $28^{\circ}$ , and this, mind, in a land engine. Now, making due allowance for improvements, it is corroborated by a person employed on board the City of London, who said "our vacuum was generally  $28^{\circ}$ ." This is nothing new;  $28^{\circ}$  is easily and daily acquired by the *common* engine, as is known to all conversant with the working of marine engines. It is said, in the new plan the vacuum is more regular and "steady." If it is not higher, this is a small improvement; and, I apprehend, at the end of the stroke, when the steam enters the condensing holes, the bars will shew a decreased pressure, and increasing gradually until the end of the following stroke, and so on, as in the common injection engine. I have always found the vacuum improved in proportion to the lessened velocity of an engine, by a head sea, or other cause; and when the motion is irregular, too much injection soon shews itself by the "banging" of the foot valves, and too little by the engines blowing through; and I can answer this on a former basis, that no inconvenience is felt from such causes.

As to its originality, the want of this I do not bring forward as a fault, but merely to shew, that the idea has several times occupied the attention of eminent men.

Cartwright (the reformer's brother) tried the experiment; and, to use the words of Stuart—"Some small engines on this construction were erected near London, and did not fulfil the expectations of their accomplished inventor; the *condensation by CONTACT* was not sufficiently rapid, and the action of the valves was not so precise as was desirable. A *double* engine on the same plan turned a mill at Wisbeach, but was taken down and erected at Woburn, where in a few years it fell to decay; the *defective condensation* was much more apparent in this than in the *single-impulse* engine."

Stuart, in exculpation says,—“These were first experiments,” praises the arrangement and details, and adds, that “the idea was worthy of much greater perseverance than was given to it.”



Again—"Hase, instead of conducting the steam, which had moved the piston at once from the cylinder into the condenser, made it pass *through a number of small pipes*, all of which communicated with the condenser, these being enclosed in a vessel surrounded with cold water," &c. &c.

Were I permitted, I could lay before you a series of experiments, much more modern than the two former, in which condensation by cold surfaces was carried to a great extent, and found impracticable, most especially afloat: on land it may, perhaps, partially answer; there you may construct your condensers of any size, but its necessity is almost neutralized by the use of pure fresh water. I have known boilers last a number of years; in fact, too long for the benefit of the manufacturer.

But why have they removed this vast! this important improvement!! from the City of London? has the noble captain changed his opinion? is not a saving of six tons of coal per week an object? the increased speed, &c. &c. And here, I may observe, he is wrong, in stating an improvement to have taken place in the *Magnet* in the winter of 1833; there was none, and really he *must have* intended a joke, when he gravely said his vessel is *faster* than her. The managing director of the General Steam Company is not a man to forego all these advantages; he is too anxiously interested in the welfare of his co-proprietors to relinquish such "immense improvements," and I think he has too strict a sense of justice and honour to condemn without reason.

It is not, perhaps, Mr. Hall's place to state the faults of his own invention, or the cause of its expulsion from the aforesaid ship. I will supply the deficiency.

Is, then, weight of no importance in marine steam machinery? Is the "vast number of their tubes," the abundant supply of "cold water contained in *two iron cases*,  $6 \times 4 \times 5$  feet?" Is such an accession of weight likely to improve the speed of the vessel? her additional immersion was very great, as would likely be the case with each condenser and pipes complete, but *without the water*, weighing *six* tons, (the water, I should say, about double as much.) I have authority to state, that the estimated price was £500, but nearly *three* times that sum was paid for them; that the consumption of coals was increased; that any one wishing to try the experiment may have them very, very cheap, by applying at Deptford Creek, where they are lying. In deference to the noble captain, was it not the decided opinion at Ramsgate, last summer, that the City was slower? I will concede this to Mr. H. that if (I say if) he can reduce the friction, improve the vacuum, collect the waste steam, or supply distilled water in place thereof, without additional weight, expense, labour, or loss of power, he has been the cause of an improvement, in the marine steam-engine that will hand his name, in conjunction with that of Watt, down to the remotest posterity.



The "oil-saving" clause is really too absurd to be noticed. I wish it to be particularly understood, that, in penning the foregoing, I am not actuated by malicious motives, or by any unfriendly feeling towards Mr. Hall: as a private individual, I esteem him; as a scientific man, I admire his ingenuity, and determination to go forward: my only desire is, to uphold and advance that profession of which I am a humble votary. If his plan has merit, he should feel obliged to me for bringing forward its discussion, that he may have an opportunity of vindication, and shew it in its proper colour, by a statement of facts and *actual experiments*; but if it has not merit, I, for one, (having the bump of anti-humbug prominently developed,) say, "let it fall."

In conclusion, it appears probable that this, and some other (to do Mr. Hall justice,) less feasible scheme, now under the course of trial, and each different in principle, are about to die natural deaths; and the only probable improvement, as it regards vacuum, will, I fear, be in the purses of the patentees.

I am, sir, your most obedient servant,

AN ENGINEER.

P.S. I have just heard they are removing Mr. Hall's machinery from the Liverpool boats, but cannot vouch for the truth.

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**THE TIDES.**—A very interesting and valuable paper on the subject of the tides has been drawn up by that highly-talented gentleman, Professor Whewell of Cambridge, and read before the Royal Society. The observations made last summer by the officers employed in the coast-guard in Great Britain and Ireland, furnished the worthy professor with ample materials for his purpose, and we are happy to find, that although most of these were made under circumstances of some difficulty, and without a departure from other duties, that, in the words of the professor, "the returns of last June are more consistent and accurate" than he could have anticipated. In consequence of the great importance of the subject, a similar series of observations is to be made in the month of June (from the 10th to the 26th) by the officers of the coast-guard, as before; and with the view of making the whole series as complete as possible, His Majesty government is promised the co-operation of the various European states, on the coasts of which observations can be made at the same time that those on our own coasts are going forward. Such a scheme of co-operation to arrive at the hidden secrets which regulate the laws of one of the most interesting phenomena of daily occurrence, is well worthy of the present age. We shall take an opportunity of returning to Professor Whewell's paper, and lay before our readers some of the principal points of it. One of these, "the meeting of the tides" on the south coast, he clearly proves does not take place at a single point, as hitherto supposed namely somewhere off Dungeness, but along the whole south coast from the Isle of Wight to the Downs, and perhaps even further north than the Kentish coast.



TABLE XVI.

*For reducing Ionian feet to English feet, and English feet to Ionian feet.*

1 Zante or Cephalonian foot = 1.1397780987 English foot.

1 English foot = 0.8773637614 Zante, or Cephalonian foot.

Ionian or Eng. Feet.	English Feet and Dec. parts.	Ionian Feet and Dec. parts.	Ionian or Eng. Feet.	English Feet and Dec. parts.	Ionian Feet and Dec. parts.	Ionian or Eng. Feet.	English Feet and Dec. parts.	Ionian Feet and Dec. parts.
1	1.140	0.877	38	43.312	33.340	75	85.483	65.802
2	2.280	1.755	39	44.451	34.217	76	86.623	66.680
3	3.419	2.632	40	45.591	35.095	77	87.763	67.557
4	4.559	3.509	41	46.731	35.972	78	88.903	68.434
5	5.699	4.387	42	47.871	36.849	79	90.042	69.312
6	6.839	5.264	43	49.010	37.727	80	91.182	70.189
7	7.978	6.142	44	50.150	38.604	81	92.322	71.066
8	9.118	7.019	45	51.290	39.481	82	93.462	71.944
9	10.258	7.896	46	52.430	40.359	83	94.602	72.821
10	11.398	8.774	47	53.570	41.236	84	95.741	73.699
11	12.538	9.651	48	54.709	42.113	85	96.881	74.576
12	13.677	10.528	49	55.849	42.991	86	98.021	75.453
13	14.817	11.406	50	56.989	43.868	87	99.161	76.331
14	15.957	12.283	51	58.129	44.746	88	100.300	77.208
15	17.097	13.160	52	59.268	45.623	89	101.440	78.085
16	18.236	14.038	53	60.408	46.500	90	102.580	78.963
17	19.376	14.915	54	61.548	47.378	91	103.720	79.840
18	20.516	15.793	55	62.688	48.255	92	104.860	80.717
19	21.656	16.670	56	63.828	49.132	93	105.999	81.595
20	22.796	17.547	57	64.967	50.010	94	107.139	82.472
21	23.935	18.425	58	66.107	50.887	95	108.279	83.350
22	25.075	19.302	59	67.247	51.764	96	109.419	84.227
23	26.215	20.179	60	68.387	52.642	97	110.558	85.104
24	27.355	21.057	61	69.526	53.519	98	111.698	85.982
25	28.494	21.934	62	70.666	54.397	99	112.838	86.859
26	29.634	22.811	63	71.806	55.274	100	113.978	87.736
27	30.774	23.689	64	72.946	56.151	200	227.956	175.473
28	31.914	24.566	65	74.086	57.029	300	341.933	263.209
29	33.054	25.444	66	75.225	57.906	400	455.911	350.946
30	34.193	26.321	67	76.365	58.783	500	569.889	438.682
31	35.333	27.198	68	77.505	59.661	600	683.867	526.418
32	36.473	28.076	69	78.645	60.538	700	797.845	614.155
33	37.613	28.953	70	79.784	61.415	800	911.822	701.891
34	38.752	29.830	71	80.924	62.293	900	1025.800	789.627
35	39.892	30.708	72	82.064	63.170	1000	1139.778	877.364
36	41.032	31.585	73	83.204	64.048	2000	2279.556	1754.728
37	42.172	32.462	74	84.344	64.925	3000	3419.334	2632.091



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

A CODE OF UNIVERSAL NAVAL SIGNALS, &c.; in which are included, Night Signals, a Plan for Boat Signals, &c. By H. Cranmer Phillips, R.N.

This new code of naval signals is expressly intended for our mercantile marine. The author, Mr. (? Lieut.) Phillips, of the royal navy, has kept in view that first great recommendation, namely, "economy," we hope to the heart's content of the most parsimonious of our shipowners; for he has produced an extensive collection of signals, with three flags, only differently shaped, a pendant, a vane, a wheft, and a ball. The wheft, which may be made with a seaman's jacket, and the ball, serve as distinguishing signals, and the rest may be of any colour whatever. This is decidedly a recommendation, for there are few ships even now that do not possess the means of adopting these signals at once. The sentences appear to be sufficiently comprehensive, but we looked some time for one to express "inability" to comply with last signal, until we found it indexed under "signal;" it would, surely, have been better under the *object* of the signal, than under the *signal*. We quite approve of the boat, and the few distant, signals. On the whole, we consider this new code of naval signals as combining economy with efficiency, and, therefore, as possessing peculiar claims to the attention of our merchant seamen.

INDIA; ITS STATE AND PROSPECTS. By Edward Thornton, Esq. Parbury, Allen, and Co. Leadenhall-street. 1835.

It is impossible to be otherwise than pleased with this work: it bears in every page indications of its being the production of a man eminently qualified for the performance of the difficult task which he undertook. Setting out with a slight but comprehensive historical sketch, the author treats successively on the political relations, the agriculture, the manufactures, the foreign trade, the means of foreign and internal communication, the society and manners of the people, with their religion and morals, (and what a melancholy picture does he draw of these!) the judicial system, the revenue of India, and, lastly, the means of securing British interests and authority over this most important and extensive territory. The author appears to look on the opening of the trade to that country in no very favourable light, and yet he remarks (and with great justice) how little is known of India, or perhaps cared for, by the best informed in this country. There can be no better reason for believing that this same ignorance would have continued had things remained in the state they were in previous to the late act of parliament, than that such ignorance has prevailed ever since the formation of the East India Company. Much might be said on this subject, into which we do not consider ourselves bound to enter; but it remains to be seen, as the author says, "whether the opening a large part of India to European adventure will have the effect of dispelling this apathy;" and on this we shall leave our readers to form their own opinion. With regard to the communication between this country and India, we find Mr. Thornton is in favour of the route by the Red Sea, and treats that of the Euphrates as chimerical. There is no denying, however, that while the south-west monsoon



may be fatal to the former, the low state of the river and the attacks of the Arabs may be fatal to the latter, and we may yet be reduced to the good old southern passage by the Cape, adopted by our forefathers, which, by the bye, Mr. Thornton (we don't know why) calls the *south-east* passage. But these questions will be speedily decided, and the opening of the trade, in our opinion, is not calculated to operate against their decision.

We recommend to our readers a perusal of this work : they will obtain from it a clear view of the vast importance of our Indian territory, its history and present condition ; and those of our naval readers, who may be destined to visit that part of the world, will find it an instructive and invaluable companion.

#### HISTORY AND PRESENT CONDITION OF THE BARBARY STATES.

By the Rev. M. Russell, LL.D. With a Map. Edinburgh. Simpkin and Marshall. London. 1835.

This little volume forms the seventeenth of the Edinburgh Cabinet Library, a work of great merit, and one which we have previously recommended to the attention of our readers.

#### ROYAL NAVAL BIOGRAPHY, or Memoirs of the Services of all the Flag Officers, &c. By John Marshall (B), Lieutenant in the Royal Navy. Vol. IV. Part II. Longman. London. 1835.

We need do little more than announce the appearance of the present volume of this valuable work. The title speaks for itself ; and when we say that it includes all ranks, from the admiral of the fleet to commanders, we know that it is highly prized by a large portion of our readers.

**THE MONARCH, STEAMER.**—Mr. Huggins, we find, is pursuing his *craft* in the same good style as we left him a short time since. He has just published an elegant aquatint drawing of the Monarch, steamer, passing the Bass Rock, on her voyage to Edinburgh from London, under the command of that experienced navigator, Mr. Bain, of the Royal Navy. We consider it a good picture. The position of the vessel, and the rock in the distance, are well chosen, and their details executed with equal good judgment.

We have the painful intelligence to communicate to our readers, of the loss of H. M. schooner *Firefly*, and eleven persons. From the few particulars yet known of this melancholy event, it appears that the vessel was wrecked on the Triangles, a dangerous reef on the coast of Yucatan, the nearest part of which is 70 miles to the northward of Belize. A raft was constructed, from which the crew and their commander, with the exception of a party who took the *Firefly's* gig, landed on the adjacent coast, and succeeded in reaching Belize. Lieut. M'Donald, however, the commander, was unable to keep company with them, being much exhausted by exertion and previous illness, and was left by his people on the coast—a circumstance which to us is quite inexplicable. However, on their reaching Belize, notwithstanding the very faint hopes of finding him alive, a boat was sent to seek for him by the governor, Colonel Cockburn, and he was happily discovered on Ambergris Cay, and conveyed to Belize. It appears that he was unable to proceed further than this place, and, previous to being found by the boat, had received very kind treatment from some Spaniards who had accidentally visited that Cay.

The party which took the gig were unhappily all drowned ; they consisted of Mr. Lockyer, mate, the assistant surgeon, and six men of the *Firefly*, with Capt. West of the engineers, his son and servant, making in all eleven persons.



The Jamaica Dispatch of the 6th April says—"We are sorry to announce the loss of his Majesty's schooner Jackdaw, Lieut. Barnett, on the reef of the north end of Old Providence, on the 12th of March; the officers and crew were all saved."

#### MARINE INSURANCE.

The following important proceedings have taken place at Kirkcaldy:—

At a meeting of the inhabitants of the royal burgh of Kirkcaldy and vicinity, called by requisition, numerous and respectably signed, to the provost and public advertisement, held in the Town Hall on Monday the 11th instant.—Baillie Hitt being called to the chair, the following resolutions were unanimously agreed to:

Moved by Bailie Andrew Arthur, and seconded by the  
Dean of Guild Sang.

"That this meeting views with much regret the great loss of human life, as well as property, which has for many years past taken place, in consequence of shipwrecks, more especially of vessels conveying emigrants to America."

Moved by Js. Ballingall, Esq. manager of the Kirkcaldy and London Shipping Company, and seconded by William Black, Esq., writer,—

"That it appears to this meeting that the greater part of the losses may be attributed to the imperfect manner in which merchant vessels are in general originally built, the erroneous principle of their classification at Lloyd's, by which character depends more on the age than on the intrinsic quality and condition of the vessel, and the want of an efficient control for preventing insufficient vessels proceeding to sea."

Moved by David Landale, Esq., merchant, and seconded by  
Robt. R. Duncan, Esq. merchant.

"That it is the opinion of this meeting, that it would tend to remedy these evils, were an act of the legislature to be passed, requiring that no vessel, hereafter to be built, shall be registered until a certificate of its proper construction, sufficiency, and sea-worthiness, under the hands of qualified inspectors, to be appointed and paid by government, be produced, and recorded at the custom-house of the port where such registry is required to be granted; and that no vessel, whatever its age may be, shall be cleared for sea by any of his Majesty's custom-house officers, unless a certificate, under the hands of the government inspectors, bearing that the vessel has been inspected by them since its arrival at the port of such custom-house, and is then in a state of secure efficiency, and in all respects sufficient and sea-worthy, shall be produced and recorded as before mentioned."

After which, the draft of a petition, to be extended, laid in the Town-Hall for signature, and forwarded to the member for the burghs, for presentation to Parliament, was unanimously agreed to, as follows:—

"Unto the Honourable the Commons of Great Britain and Ireland, in Parliament assembled, the Petition of the subscribing Inhabitants of the Royal Burgh of Kirkcaldy and Vicinity, adopted at a Public Meeting there convened:

"Humbly sheweth,—That your petitioners observe with deep regret the great loss of human life, as well as property, so frequently arising from the wreck of merchant vessels, and more especially of those employed in conveying emigrants to America:



"That in their opinion, the great proportion of these disastrous events are referable to the imperfect manner in which such vessels are originally built, to the erroneous principle of their classification at Lloyd's, whereby character is made dependent rather on age than intrinsic quality and condition, and to want of efficient public control over all vessels proceeding to sea :

"That while the evil complained of is notorious, and humanity loudly demands a remedy, your petitioners can conceive of none, calculated to meet the exigencies of the case, independent of legislative interference ; and, under this view, beg to suggest to your honourable house the propriety of causing an act to be passed, requiring that no vessel thereafter to be built shall be registered until there be produced and recorded, in the custom-house of the port where such registry is claimed, a certificate, under the hand of qualified inspectors, appointed by government, vouching its proper construction, strength, and sufficiency ; also that no vessel, whatever its age, shall be cleared for sea without satisfactory proof obtained, as above described, on inspection made within a limited period before sailing.

"May it, therefore, please your honourable house, to take the matter of this petition into serious consideration, and to make such provision as in your wisdom and humanity may seem meet, to redress a grievance so injurious to the national prosperity, and destructive of human life ; and your petitioners shall ever pray," &c.

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#### MORGAN'S PADDLES.

SIR,—I forward you the following extract from the Portsmouth Herald, in order that your readers may compare it with the statements of Hiram, in pages 294 and 295 of your last number.

I am your obedient servant, Z.

"The new steam-vessel, the *Hermes*, building in this dockyard, is expected to be launched next month. She is ordered to be fitted with Morgan's paddle wheels, whose superiority over the old ones is now clearly acknowledged, by their being about to be adopted throughout the navy."

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DESTITUTE SEAMEN'S ASYLUM.—We know of no institution, the prosperity of which so peculiarly deserves our own disinterested assistance, as that which bears the foregoing title. The seaman's welfare has more than ordinary claims to the attention of his fellow-countrymen, in this the first maritime state of the world ; and it should never be forgotten by Englishmen, (we say it without detracting from the merits of the military service) that, although his services may not be required at present for the objects of war, not only has this country attained her present condition mainly by his co-operation, but, as a maritime state, seamen are essential to her existence for commercial purposes ; and that, even at her last extremity, they would form the main springs of her protecting bulwarks, the Navy. "The trident of Neptune is the sceptre of the world," was said by a celebrated French writer ; but it is enough for us to know, that the navy is the safeguard of our country, and the navy is formed of ships and seamen. Ships are always to be had, but not so are seamen, and it therefore becomes one of our most important duties to open our asylums, and to afford every possible means of protection to seamen, that class of men who are proverbially acknowledged to be the most improvident of society. We have been led into these remarks (and much more might we add were it necessary) in



consequence of seeing it advertised that a sale of goods is to take place at the Hanover-square rooms on the 12th and 13th of June, in aid of the funds of the *Destitute Seamen's Asylum*, their present asylum being "neither wind nor water-tight." It is gratifying to see the laudable exertions of men of rank in such a cause, and it is equally gratifying to find the fair sex are lending their all-powerful aid, and assisting them in their excellent designs, by contributing the work of their own hands to the general stock. We have no doubt that those of our readers who have it in their power, will attend the rooms on this very interesting occasion.

### CAPTAIN SYMONDS' SHIPS.

*To the Editor of the Nautical Magazine.*

SIR,—Under the article of "Flying Fragments, No. 3," in the Nautical Magazine of May, 1835, there are several reports relative to the qualities of some of the ships and vessels built by Captain Symonds, which reports are signed by the captains and other officers now serving in them. In their thick-and-thin admiration of this novel mode of ship-building, they have indulged in many unfounded, and, I may add, ungrateful, remarks upon that class of ships which stood the brunt of a protracted war under more severe and constant sea duty than was ever before known. That deep-rooted prejudices on the part of several of our former surveyors of the navy too long retarded any improvements in our naval architecture, cannot be denied; but even from under this cloud of prejudice, whether by accident or otherwise, some ships did spring up which were perfectly good models. It was not so entirely owing to any peculiar vice in our mode of buildings, as to the contracted dimensions of our 74's, that caused them to appear inferior to the larger French ships when under a press of sail. It is, however, very questionable, whether a larger class of ships would have stood the constant buffeting of the Bay of Biscay so well as our small 74's: our greater solidity in building would also have greatly increased the expense of our large navy, if we had gone upon a much larger scale. In the article before mentioned in the Nautical Magazine, there is a letter from Mr. Davis, of the *Gulnare* steam-vessel, commending the ships built in the course of last war by Baraillier. I know his ships well, and will affirm, that excepting in smooth water, they are very bad ships and from their violent pitching motion, quite unequal to cope with our smaller 74's in rough weather and a head sea.

To use an expression of Captain Rous, of the *Pique*, these ships of Baraillier's of 1900 tons were built like cutters.—That Captain Rous, or any seaman, should approve of such a construction when applied to 74's, or even to frigates, is to me astonishing. Owing to this cutter-like mode of construction, the *Vestal*, one of Captain Symonds' frigates, is obliged to be sailed two feet by the stern, instead of one foot, as computed by her builder, in order to prevent her diving into the sea when carrying sail: for similar reasons, the *Pique* sails three feet by the stern instead of one foot six inches. The *Vernon* was constantly under water when carrying sail against a head sea, and although she has undergone some material alterations, with a view of remedying these defects, in a late trial of sailing in comparatively smooth water, she was much relieved (according to the report) by getting her two foremost guns aft. From this cutter-like construction, many of Captain Symonds' smaller vessels have such a rapidity of motion, that, except in heavy breezes, the wind is shaken out of the sails, and they are passed by vessels of an inferior rate of sailing. It is to be hoped that the Admiralty will speedily try some of the immense ships



recently built by Captain Symonds, it is much to be apprehended, that if the same mode of construction is adhered to in these large ships, the evil effects above mentioned will be increased in proportion to their size, and that they must tear themselves to pieces, if exposed to the constant sea duty and bad weather which our fleets experienced in the course of last war.

I entertain no silly prejudice against Captain Symonds, or his peculiar mode of ship-building, but conscientiously state what I believe from good information to be the facts of the case.

AN IMPARTIAL OBSERVER.

#### ADVICE TO EMIGRANTS.

"FRIENDS AND COUNTRYMEN,—This paper relates only to your personal safety during your passage. You must often have heard that there are but two bad paymasters in the world—he who pays beforehand, and he who does not pay at all. Act strictly, then, upon this maxim. Do not pay your passage until you are landed at your destination. But, then, the shipowner will not receive you on board. This is a matter, however, which can easily be settled. It is because the shipowner doubts your means of being able to pay at all, that he refuses to receive you on board; not that he can allege he has any just right to demand your passage-money in advance, any more than he has to demand the freight of a bale of goods till it is delivered at its destination. In the case of goods, he can hold them till he get his freight, or is satisfied that he will be paid; but with passengers he has no such security, and hence the general practice of paying passage-money in advance. Bargain, then, for your passage on the best terms you can, and intimate, at the time of bargaining, that the money will not be paid till you are landed at your destination. And to convince the shipowner or broker of your means of being able to pay, offer to pay the passage-money in his presence, into any bank of the port from which the vessel is to sail, in trust, in the name of the government agent for embarkation of emigrants, the minister or elders of the parish, the magistrates of the town, (any two of them will be sufficient,) or any two respectable individuals on whom you and he can agree, and whose consent to act, however, must be obtained, to be drawn out on the order of these two individuals, or, in the event of the death of either of them, on the order of the survivor, without requiring your consent, and to be paid to the shipowner, together with the interest which may have arisen on the sum, on satisfactory evidence being produced to these individuals, of the vessel's arrival at her destination. Perhaps a paper signed by the proper authorities of the customhouse at the port of destination, saying of what date the vessel arrived there, might be agreed upon as satisfactory proof. These might be sent home in triplicate, like bills of exchange. Get as many of your fellow-emigrants who propose going out in the vessel, (and if possible all of them,) to join you in this arrangement, as you can. In order to remove any reasonable scruple of the shipowner, you should at once agree that the money shall be paid to him on satisfactory evidence of the vessel's arrival at her destination, without requiring a certificate of your being alive. This will be the same to him as if the money had been paid in advance, provided he perform his part of the contract,—if he do not, it is not legally due, whatever practice may be, and ought not to be paid. If one shipowner will not take you on these terms, there may be reason to apprehend that all is not right, and you should endeavour to get another who will. Competition for employment amongst shipowners will soon bring this matter right, although there may be some difficulty at first,—once establish a precedent, and the practice will become general.\*

\* "A precedent directly in point, exists in the case of passengers sent from the Scotch Corporation Charity of London, one of which has recently gone through the Author's hands."



"The fatal experience of drowning of emigrants last year, and in former years, proves that no reliance whatever is to be put on the bond to the extent of £1000 come under by the shipowner, that the vessel is sea-worthy. No man in Britain knows what being seaworthy is; and hence the penalty never can be sued for; and it is rather too late for emigrants, after they are drowned, to find out what is *not*. As little reliance is there to be put on seamen engaging to go with the vessel. Many of them are ignorant of the hazard they are about to run, and, with too many of them, it is merely a question of employment at the risk of their lives, or starvation; and they will prefer employment even at the hazard of their lives, to starvation ashore. The Montreal Gazette of June last, gave a list of eighteen British vessels wrecked on their passage out; and the newspapers of the present day state that a thousand emigrants were drowned last year on their passage from the British Islands to Canada, and other parts of the American continent. Keep in mind, too, that in a public conveyance by land, if an insufficient vehicle, careless or incompetent driving, or defect of any kind, can be proved, the injured party has an action at law, and can recover damages to the extent of the injury received, from the proprietor. But at sea, under the plea that all casualties whatever arise from the *act of God*, unsafe ships are employed; and although you may be providentially preserved from being drowned, you have no recourse against the shipowner. A practice is known to exist of insuring vessels for far above their *marketable* value, and in such circumstances, when they are lost, the owner makes a gain by it. He is further safe, in the event of loss, if he be full-handed with passage-money. All losses by shipwreck, where the vessels are insured, are paid by the public, and hence underwriters have no interest in diminishing them, as they charge the premium in proportion to the risk. It should be your endeavour, then, to guard against going to the bottom along with the vessel; and withholding payment of your passage-money until you are landed, will give the shipowner an interest in your safe conveyance. Instructions should be left, to whom your passage-money is to be paid, in the event of loss, and never reaching your destination. In such event, and in the circumstances of your having no friends to whom you would wish it to be paid, it were far better to pay it to the poor of any parish, or even to put it in the fire, than that it should be a means of temptation to hurry you into eternity. If you could discover to what extent the vessel you are about to embark in is insured, it would be a great means of ascertaining the probable chances of your safe conveyance; always taking it as a general rule, that the less sum insured upon the vessel, the greater the chance of your safe conveyance. Wishing you a quick and safe passage to more prosperous climes, I am your well-wisher, and a friend to humanity,

"JAS. BALLINGALL,

"Ex-Surveyor of Shipping at Kirkcaldy."

"Kirkcaldy, March, 1835."

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#### ROYAL NAVAL SCHOOL, *Camberwell*.

SIR.—Through the medium of your valuable magazine, I beg to call the attention of the Committee to several of the evils which exist in that establishment; and as it is still in its infancy, I hope they will meet with immediate attention.

I have no complaint, nor have I heard any, of the system of education, or want of ability on the part of the very respectable head-master or his assistants. But I shall begin by stating,—It is the general opinion that the



masters have too little to do with the boys after the hours of instruction; they are left too much to themselves; they do not take the boys out for the benefit of the fresh air of the neighbourhood, and the grounds of the school are so limited for the number, it is impossible the boys can be healthy, if they are confined to them from one month's end to the other. Boys with the ringworm are allowed to mix with those who have it not, until it runs through them all. They are not looked at often enough by the medical attendant, who, if he passed by them drawn up in a line twice or thrice a week, as is practised in the navy, might with half an eye discover disease in its early stage, and not allow children, as they are, to go those lengths many have ere they complain. More attention should be paid to their personal appearance generally; and this should not be confined to one or two days in the week; they should not be allowed to wear the half-washed linen which the contractors for washing now send home for them.

The food, and the cooking of it, requires looking into: in fact, an independent gentleman is wanted to overlook the whole of the things contracted for. The under-masters' table should be abolished, and they should take their meals with the boys; should see that the food is good; serve the meat, with the senior boys to assist them; and take care they conduct themselves at table like young gentlemen. The system of the navy should be closely followed, of giving their meals at exact times, and serving them hot: in no well-regulated ship are the crew allowed to have their meals served in a cold comfortless manner, unless in cases of emergency: and the convict-way of feeding the boys, by allowing a fat greasy cook or labourer to junk the meat up, finger the potatoes, and dab them on a plate to be set out on table, and half cold ere they are allowed to go to them, should be put a stop to at once. And why such a barbarous system should have been introduced when it was not so at first, I am at loss to account. In fact, they should in every case be treated as gentlemen's sons, and not as charity boys.

In this respect, the example of the Naval College at Portsmouth should be closely followed, and not that of any charity establishment. The arrangements for victualling the school are decidedly good, but contractors will not keep up to the mark, unless well looked after by an independent person, who should have nothing else to do with the school but as a general inspector, and should have one son at least in the establishment: unfortunately, none of the committee have children there, consequently, all they know about the internal arrangement is that officially reported. There are many score of boys there, who are above telling a falsehood, (and thus, then, the parents know every thing which is not as it should be:) these do not expect luxuries, and would be well content with *good* plain food. We know that the cooks wont boil the cocoa well, unless they are well looked after; and, as breakfast to a boy is a principal meal, which he does not get until he has been fagging for three hours in school, whether it is properly served or not makes a material difference. The matron should be attentive to the younger boys at all times, particularly in sickness; many of them require, at such time, good nursing. The visiting a boy once or twice in ten days, in sickness, ere he dies, is not sufficient.

The head-master should, in case of sickness, communicate with the parents in time to allow of the boy's removal, if it be requisite, not wait until the doctor calls, or is sent for, and as much form gone through as there is in making, as it is called, twelve or eight o'clock on board ship. The system of shearing the boys' heads every week, as it is done, cannot be necessary; in fact, there are so many things want doing, which, if not attended to forthwith, the whole establishment (a most noble and a most creditable institution to the country) will be ruined.

A SUBSCRIBER.



[We have inserted the foregoing, at the request of our correspondent because we are quite sure, that, if grievances do exist, they only need being pointed out, to be remedied. We do not agree with him, in thinking that the masters' table should be done away, or that all of them should be obliged to superintend the meals; but, perhaps, there is ample matter for consideration in other points which he has advanced.]

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**EXPEDITION ACROSS THE ANDES.**—In page 117 of our present volume we announced the projected expedition of Lieut. Smyth and Mr. Low, mate of H. M. S. Samarang, from Lima, across the Andes, and down the Amazon. We must refer our readers to the particulars we there gave of the intended route of the party, and the objects that were contemplated. Accounts have just been received, by which we regret to find, that owing to various causes, the progress of Lieut. Smyth has been for the present suspended. He left Lima in October, and after meeting with difficulties of nearly every kind, arrived at Pozuzu on the banks of the Huancabamba, by which he was to descend the river Pachitea and the Uyacayali, to the Marañon. On the night previous to their crossing the first of these tributaries to reach the post of Mayro, Lieut. Smyth was deserted by the whole of the Indians, and nearly all the soldiers, forming his party; and, in consequence, was compelled reluctantly to return to Pano, a town about a day's journey to the N. E. of Huanuco. The cause of his being thus deserted seems to have originated in the superstitious fears produced on the minds of the Indians by the stories of the missionaries regarding the Casibos, the inhabitants of the Pampa del Sacramento, added to which, the half measures adopted by the Spanish authorities, contributed from the first to forebode a failure. Had it not been for the military escort subscribing their pay to defray the current expense of the expedition, it would have been stopped at Pasco. The greatest difficulties of this part of the route were surmounted, (namely, between Muna and Pozuzu,) when the expedition was thus interrupted. Major ———, in one of the most difficult passes, with a presence of mind which saved his life, sprung from his horse while in the act of falling down a precipice, and caught hold of the projecting branch of a tree; the poor animal was dashed to atoms in the fall. On the return of the party by this pass, three more horses shared a similar fate. Lieut. Smyth and Mr. Low, we believe, have by no means relinquished their original design, and were determined on reaching Mayro when the despatches left them. Some important geographical positions have already been ascertained by these enterprising officers.

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**THE ROYAL GEORGE.**—We have seen the preparations for the exhibition, at 201, Regent-street, of Mr. Dean's diving apparatus, which he has so successfully used on the wreck of this ship. The room, which also contains one of the guns he has recovered, is ornamented with a series of paintings representing the various occasions on which he has been employed, shewing the manner in which he is at work beneath the water. The subject of this exhibition is one of peculiar interest; it is rendered too memorable by the severe loss of life with which it was attended, and it is rather remarkable that under the same roof there is another exhibition of the burning of the two Houses of Parliament, in four admirably executed diorama views. They are both well worthy the attention of our readers.



## PRIZE CHRONOMETERS.

MR. EDITOR,— On looking over the Naval and Military Gazette of 28th March, I was struck with a most outrageous puff on the *Prize Chronometer*, Carter, No. 144, concluding that “any *skilful* navigator could have sailed from hence to China, and back again, with an error in longitude scarcely exceeding a mile!”

In the first place, I cannot see that “any *skilful* navigator” could obtain any nearer result than one not so highly gifted. His ability could not affect the rate, or subvert the pure truths of science. But I would observe, that any “*skilful navigator*” who casts his eye over the following, must at a glance see the enormous error which circumstances would create:—

Mean daily rate, Therm. 40° to 81°			} Extreme variations on any two days.
January . . .	2.52s. . . . .	1.6s.	
February . . .	2.66 . . . . .	1.4	
March . . . .	2.41 . . . . .	0.9	
April . . . .	2.52 . . . . .	1.3	
May . . . .	2.98 . . . . .	1.4	
June . . . .	3.19 . . . . .	2.0	
July . . . .	3.44 . . . . .	1.9	
August . . .	3.11 . . . . .	2.1	
September . .	2.51 . . . . .	1.8	
October . . .	2.16 . . . . .	1.6	
November . .	2.08 . . . . .	1.2	
December . .	2.24 . . . . .	1.4	

Now, to speak fairly of the work of such a machine, we have a right to assume that it was rated previous to starting, say in April, then the mean rate on 1st May would be 2.52s. Now, 84 days is one of the shortest passages which has been made between England and Madras. This would bring us there in July. Then for the mean rate it has kept in July we have 3.44s.

Now, in all cases where we measure meridian distances between stations we determine the longitude on the day, or that following, of arrival, and then obtain the rate on mean time at *that place*.

The problem then would, I apprehend, stand thus:—

On 1st May, 1834, left the meridian of Portsmouth with an error of 0h. 0m. 0s. on M. T. Greenwich rate of 144 = +2.52s. On the 84th day arrived at a position, the longitude of which was in doubt. Obtained sights, and determined the longitude, as well as a new rate for the Chronometer, which was found to be +3.44s. On 1st August sailed with this rate, and reached the same meridian, Portsmouth) in 84 days. Then for error on arrival at the doubtful position,

Original Error	0h.	0m.	0s.	} rate 2.52 × 84 = 211.68 = 3m. 31.68s.
Accumulated error	3	31	68	

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0 3 31.68

The back Error on the new determined rate would be

3.44 × 84 = 288.96 = 4m. 48.96s.

Then errors 1st. = 3 31.68

2d. = 4 48.96

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diff. of errors 1 17.28

Thus, in the voyage of 84 days the error would amount to 0h 1m 17.28s. or 0° 19' 22" instead of 1' in double the voyage (i. e. to China and back.) But this is not all the error; we must include the time of detention at the last place of rating, which perhaps may amount to 50 days and consequently the difference between the rates (2.54—3.44) 0.90 × 50 = 4.50 or more than one mile to be added. This, be it remembered, is only what its performance is found to be



by comparison with daily observation with the astronomical clock, not what would result, from the motion of a ship, and the chance of change in the position of the dial-plate; for it is, I believe, an indisputable fact that a chronometer will vary in its rate if the ship be 10 days on one tack with head E.N.E. and the next ten N.N.W.

I am, Sir, yours, &c.

A FRIEND TO FAIR INVESTIGATION.

EDINBURGH REVIEW, No. 122.—*On the Frequency of Shipwrecks.*  
*Marshall's Proceedings on Classification.*

IN the above number of the *Edinburgh Review*, lately published, there is an article under the above title, from which we willingly make the following extracts, conceiving them to fall peculiarly within our province, and to be deserving of every publicity, amongst all classes of society; and that the more public they are made, the sooner do we hope to see the remedy applied.

"The mercantile navy of Great Britain, including that of the plantations, consists at present of about 24,500 vessels, manned by about 160,000 seamen. The total burden of the registered vessels is about 2,650,000 tons; and valuing them, rigging and stores included, at a rough average at £10 per ton, the entire aggregate value of our mercantile shipping will be no less than £26,500,000. Nothing, surely, ought to be omitted that may contribute in any degree to increase the security of so many valuable lives, and of so great a mass of property. In so far at least as England is concerned, shipwreck is at present more prevalent than ever, and has indeed grown to an excess that is quite frightful, and which has begun forcibly to excite the public attention. A good deal of this widespread calamity must, no doubt, be ascribed to the casualties naturally incident to a navy whose flag is displayed on every sea, however remote or dangerous. But we are, notwithstanding, well convinced that more than *two-thirds* (we believe we might safely say *three-fourths*) of the total number of shipwrecks are ascribable to entirely different causes;—to the vicious customs and regulations under which the business of sea-insurance is conducted, the defective construction of ships resulting therefrom, and the incompetence of the masters. The temptation to construct what are called *slop-built* ships, of the worst construction, is therefore quite irresistible. For a half, or at most two-thirds of what would be required to construct a good and really seaworthy ship, a shipowner gets an inferior vessel, of equal burden, sent to sea; and owing to the matchless absurdity of the system of classification, the worthless ship is placed in the same rank with the superior—enjoys all the advantages such distinction can give—and is, in the public estimation, deemed quite as good and as deserving of employment as the other. This is a more copious source of shipwreck than all the currents, fogs, and rocks that infest our seas. We challenge any one to produce in all the annals of all the maritime nations of the world, from the Phœnicians downwards, any instance of a regulation so perverse, contradictory, and absurd. That it should have subsisted amongst us for the greater part of a century, strikingly illustrates the influence of association and of habit in making men insensible to the mischief of perpetuating the most destructive practices and errors. Government does not, for reasons best known to itself, appear ever to have thought that this was a matter with which it had any thing to do; and, owing to the difficulty of breaking through long-established practices, the old system flourishes in rank luxuriance, annually engulfing our ships by hundreds, and our seamen by thousands! Unless, therefore, the government and the legislature lay it down that the preservation of the lives of seamen, and the prevention of shipwreck, are objects beneath their attention, they are bound to interfere, and to adopt and enforce such regulations as may ensure an accurate classification of ships. Of the 800 shipwrecks that occurred in 1833, we have



been well assured that not more than 200, or at most 250, can be fairly ascribed to natural causes. The remaining 550 or 600 shipwrecks are wholly owing to the absurd and vicious classification of our shipping; and to the ignorance, incapacity, and carelessness of the masters. We have shewn how these causes of a destruction of life and property unparalleled in the history of navigation, may be easily, cheaply, and effectually obviated; and we trust that the next time we have to notice this subject will be to announce that the measures specified above, or others of a like import, have been carried into effect."

In these views and sentiments we fully accord, and are happy to see this important subject so ably handled in a publication holding so prominent a station in our periodical literature. We have ourselves so recently expressed our opinion on the subject, that we have now nothing to add, except our firm conviction that the greater part of shipwrecks are as much produced by, and owing to artificial means, as grapes are by artificial means raised in a hot-house. We do most earnestly hope that Government will speedily take up this most important subject, and we conclude by recommending a perusal of the article in the Review to all classes of society.

**PATRONAGE.**—"Well, well, sir, he shall have his promotion, he shall have it as soon as he has passed his examination," was the reply of a noble lord, once in office, to the pressing importunities of a parent, anxious for the advancement of an only son in the Royal Navy. "And here, sir," continued his lordship in the same kind tone, "here Mr.—— d'ye see, he shall take a letter from me to his passing captains." A minute or two completed the letter, which was sealed, and placed, by his lordship, in the hands of the young hero, with particular injunctions to deliver it to captain—— himself, when he went to pass, *before* his examination was commenced. Elated with their success, both father and son departed from the Admiralty; the latter confiding in his abilities to be a match for his passing captains, and the former satisfied that the letter of the noble lord would help him over any difficulty in the way of his passing.

The day of examination arrived, and off started our hero to Somerset House with his logs under his arm, and with many others for the same purpose, was ushered in his turn into the presence of his judges. But, scorning the idea of depending on favour to help him through his examination, he kept his passport letter to himself, till he had replied so satisfactorily to the questions put to him, that he was complimented on his proficiency, and told he had passed,—whereupon he delivered his letter.

The next levee-day found the two visitors at the Admiralty, and in due time they were conducted to the presence of the same noble lord. "Well, Mr.—— has your son passed yet?" was immediately asked: "Yes, my lord, and ready for the honour of your lordship's patronage!" "The devil he is," said his lordship half to himself, "and pray, sir," addressing the youth, "did you do as I desired you? did you deliver that letter to capt.——?" "As soon as I had passed, my lord," was the reply. "Why, sir, I told you to give it him before!" "Yes, my lord," returned the young man; "but if an officer gets a ship into irons at sea, your lordship's letter would not have helped him out of the scrape, so I tried my hand at it before I had recourse to your lordship's kindness." "Kindness!" said his lordship in a disappointed tone, and he turned away half angrily, but seeing that he had been inadvertently outwitted, with that good humour for which he was well known, he frankly told the father, while he excused it on the score of numerous applications, that the letter would have prevented, instead of assisting, his son's passing. It is due to his lordship's discernment, to add, that the young man very shortly received his commission, and an appointment to a fine frigate.



## Naval Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—MAY 21ST, 1834.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, OCEAN, 80.

ASTREA—Falmouth.  
 BARHAM, 50—Chatham, fitting.  
 CAMELEON, 10—Portsmouth station.  
 CHAMPION, 18—Hamoaze, fitting.  
 CLIO, 16—Portsmouth, fitting.  
 EXCELLENT, late BOYNE—Portsmouth,  
 for the practice of naval gunnery.  
 MAGICIENNE, 24—Portsmouth, fitting.  
 OCEAN, 80—Sheerness.  
 PEARL, 20—Sheerness, fitting.  
 PIQUE, 36—Spithead, waiting to take  
 commissioners to Quebec.  
 PIKE, 12—Plymouth, fitting.  
 PORTSMOUTH, *Yacht*—Portsmouth.

PRINCE REGENT *Yacht*—Deptford.  
 ROYAL GEORGE *Yacht*—Portsmouth.  
 ROYAL SOVEREIGN *Yacht*—Pembroke.  
 ROYALIST—Plymouth, fitting.  
 SAN JOSEF, 110—Hamoaze.  
 SAPPHIRE, 28—Spithead.  
 SEAFLOWER, *Cutter*, 4—12th Feb.  
 sailed for Jersey.  
 SPEEDY, *Cutter*—Portsmouth station.  
 TWEED, 18—Portsmouth, fitting.  
 VICTORY, 104—Portsmouth.  
 WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad,

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CASTOR, 36—north coast of Spain.  
 HASTINGS, 74—in the Tagus 28th  
 March.  
 LEVERET—28th March arr. at Lisbon  
 from Madeira; 6th May arrived at Ply-  
 mouth.  
 NIMROD, 20—2d May arr. at Lisbon  
 from Vigo; 5th May at Santander; 5th  
 May arrived at Plymouth.

RINGDOVE, 16—5th May at San-  
 tander.  
 ROYALIST, 10—15th April sailed for  
 Lisbon.  
 SARACEN, 10—10th April and 5th  
 May at Bilbao.  
 STAG, 46—28th March in the Tagus.  
 WATERWITCH, 10—19th April arrived  
 at Lisbon.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St.V.—27th April at Naples.  
 BLAZER, St.V.—Lieut. Com. J. Pearce,  
 12th April, arrived at Malta.  
 CALEDONIA, 120—8th April at Malta.  
 CANOPUS, 84—12th March at Malta.  
 CEYLON, 2—Malta.  
 CHILDERS, 16—20th March at Malta.

COLUMBINE, 18—21st March sailed  
 from Malta.  
 EDINBURGH, 74—12th March at Malta.  
 ENDYMION, 50—11th April left Malta  
 for Algiers.  
 FAVORITE, 18—April sail from Malta  
 for Tripoli.



JASEUR, 18—12th March at Gibraltar.

MALABAR, 74—12th March at Malta.

MEDEA, 6—20th March arrived at Malta from Vourla.

ORESTES, 18—on the coast of Spain.

PORTLAND, 52—Detached on the service of the king of Greece.

REVENGE, 78—19th Feb. at Vourla; 5th April at Malta.

SCOUT, 18—20th March arr. at Malta from Constantinople.

THUNDERER, 84—12th March at Malta.

TRIBUNE, 24—Malta.

TYNE, 28—21st April about to sail for Corfu and Gibraltar.

VERNON, 50—20th March at Malta.

VOLAGE, 28—Jan. at Constantinople, 7th Feb.

#### CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—Sept. on the Gold Coast. Expected home.

BRITOMART, 10—Gold Coast.

BUZZARD, 10—12th March at Sierra Leone.

CHARYBDIS, 3—12th Oct. at Sierra Leone.

CURLEW—On the 23d captured the Spanish slave vessel *El Manuel*, with 386 slaves, consisting of men, women, and children.

FAIR ROSAMOND, *Schooner*—Bight of Benin.

FORESTER—Feb. cruising off the Bonny river.

GRIFFON, 3—September and October at Ascension.

LYNX, 10—Gold Coast, Feb. Expected at Sierra Leone.

PELICAN—29th March arrived at Madeira; 2d April sailed for Gambia.

PELORUS, 18—8th Nov. at Sierra Leone. Expected home.

ROLLA, 10—27th March sailed for the coast of Africa, 9th April arrived at Madeira, 14th sailed.

THALIA, 46—13th Feb. in Simons Bay.

TRINCULO, 18—13th Feb. in Simons Bay.

#### EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—26th Nov. arrived at Cape of Good Hope.

ALLIGATOR, 28—27th November left Sydney for Madras.

ANDROMACHE, 28—21st Nov. arrived at Madras from Canton.

CURAÇOA, 26—Ordered home. 15th Dec. at Calcutta, waiting to bring home the Governor-Gen. Lord W. C. Bentinck, expected to embark on the 17th March.

HARRIER, 18—To leave Madras for England 15th Jan.

HYACINTH, 18—Arrived at Sydney from Madras, having touched at Cocos Island.

IMOGENE, 18—13th Nov. at Manilla, Dec. expected at Madras. Ordered home.

MELVILLE, 74—Vice-Admiral Sir

John Gore, K. C. B. 26th January at Bombay. Expected home.

RALEIGH, 16—16th Dec. arrived at the Cape.

RATTLESNAKE, 28—27th March sailed for East Indies, 9th April arrived at Madeira, 14th April sailed.

ROSE, 18—26th January arrived at Bombay.

VICTOR, 18—Left Cowes Roads for the East Indies, 30th March arrived at Madeira, 3d April sailed.

WINCHESTER, 52—8th January sailed from the Cape in company with the Trinculo.

WOLF, 18—5th Feb. sailed from Algoa Bay for India.

ZEBRA, 16—27th November arrived at the Cape.

#### NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G. C. B. *Flag-Ship*, PRESIDENT, 52.

ARACHNE, 18—10th May arrived at Spithead from the West Indies; left the Havana 9th April. Sailed for Plymouth to be paid off. As the Arachne was

going into the Havana, she captured the Spanish polacre, Reyna, with 254 slaves on board from Africa; and during her short stay there of eight days had



the vessel and slaves condemned as prize to her.

BELVIDERA, 42—13th Feb. at Barbados.

COLUMBIA, St.V.—4th March at Barbados.

COMUS, 18—5th March sailed from Barbados for Grenada.

CRUIZER, 18—April off Cuba.

DEE, St.V. 4—4th March at Jamaica.

DISPATCH, 18—25th March at Barbados from Para. Ordered home.

DROMEDARY—Bermuda.

FLAMER, St.V.—25th March at Barbados.

FLY, 10—At Belize. Ordered home.

FORTE, 44—6th March arrived at St. Domingo from Nassau, and sailed for Port-au-Prince.

GANNET, 18—15th February at Port Royal.

LARNE, 18—8th April at Halifax.

MAGNIFICENT, 4—Port Royal.

PICKLE, 5—24th Feb. arrived at Jamaica from Maracaybo.

PINCHER, 5—Tender to flag-ship, 14th Feb. at Port-au-Prince.

PRESIDENT, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 19th March at Bermuda.

RACEHORSE, 18—28th Feb. arrived at Port Royal.

RACER, 16—Arrived at Port Royal 29th March. To sail immediately.

RAINBOW, 28—7th March at St. Vincent's.

SAVAGE, 10—11th arrived at Trinidad, and sailed for Jamaica.

SCYLLA, 18—8th April at Halifax.

SERPENT, 16—April off Cuba.

SKIPJACK, 5—30th Nov. Port Royal.

SPITFIRE, St.V.—21st Feb. arrived at Barbados.

VESTAL, 26—4th March at Jamaica.

WASP, 18—12th February sailed for Belize.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K. C. B. *Flag-Ship*, SPARTIATE, 74.

ACTEON, 28—22d March sailed from Plymouth for South America.

BASILISK—4th May left Plymouth for South America.

BLONDE, 46—31. Jan. at Coquimbo.

CHALLENGER, 28—25th March at Rio Janeiro. To return again shortly to the Pacific.

COCKATRICE, 6—Running between Rio Janeiro and Buenos Ayres.

CONWAY, 25—To leave the Pacific for Rio about July. 24th December at San Blas, Mexico.

DUBLIN, 50—Left Plymouth for Rio. To relieve the Spartiate; 17th April arrived at Madeira.

HORNET, 6—Running between Monte Video and Rio Janeiro.

NORTH STAR, 28—15th Feb., arrived at Bahia from Parnambuc.

RAPID, 10—16th Feb., left Rio for Falkland Island.

ROVER, 16—15th March left Plymouth for S. America, 29th arrived at Madeira, 3d April sailed.

SATELLITE, 18—Ordered home; 26th Oct. arrived at Callao from Valparaiso.

SNAKE, 16—10th May arrived at Spithead. Left Rio 25th March.

SPARROWHAWK, 18—Feb. and March at the Falkland Islands.

SPARTIATE, 76—25th March at Rio Janeiro.

TALBOT, 28—7th Jan. sailed from the Cape of Good Hope for India, having arrived same day from Rio.

#### TROOP SHIPS.

ATHOL, *Troop Ship*—Arrived, at Plymouth 23d April from Jersey, and sailed on Wednesday for Cork, to embark troops for North America.

BUFFALO, *Store Ship*—Portsmouth, fitting. The Buffalo is to be prepared for conveyance of convicts to New South Wales, afterwards she is to proceed to

Trincomalee, and there to be appropriated for a hospital receiving ship.

JUPITER, *Troop Ship*—At Woolwich.

ROMNEY, *Troop Ship*—29th April left Plymouth for Cork, to embark troops; 10th May, sailed for Cape of Good Hope.



## STEAM VESSELS.

AFRICAN—Channel Station.  
 ALBAN—See Mediterranean station.  
 BLAZER—Running with mails between Malta and Alexandria.  
 COLUMBIA—See West Indies.  
 CARRON—Woolwich, fitting.  
 COMET—25th April arrived at Lisbon, passage five days.  
 CONFIANCE, 2—Running with mails between Malta and Corfu.  
 DEE, 4—See North American Station.  
 FIREBRAND—Woolwich.  
 FIREFLY—See Packets.  
 FLAMER, 6—See West India Station.  
 LIGHTNING—Dublin.  
 MEDEA, 6—See Mediterranean Station.

MESSENGER, 1—Channel service.  
 METEOR—Woolwich, ordinary.  
 PHŒNIX—Woolwich. Ordinary.  
 PLUTO—Ordered to be in readiness at Woolwich, on the 8th inst., to convey the princess de Beira to Rotterdam, and is there to wait the arrival of the duchess of Cambridge, who is expected to embark in her for England on or about the 11th.  
 RHADAMANTHUS—Woolwich. Ordinary.  
 SALAMANDER—Woolwich. Ordinary.  
 SPITFIRE, 6—See West India Station.  
 TARTARUS—See Packets.

## SURVEYING VESSELS AT HOME AND ABROAD.

ÆTNA, 6—Canary Islands.  
 BEACON—Archipelago.  
 BEAGLE, 10—Cts. of Patagonia & Chili.  
 FAIRY, 10—North Sea.  
 GULNARE, Hired Schooner—Gulf of St. Lawrence.  
 INVESTIGATOR, 16—Leith.  
 MASTIFF, 6—Archipelago.  
 RAVEN, Cutter.  
 THUNDER—3d March sailed for Honduras.  
 OFFICERS EMPLOYED IN SURVEYING AT HOME.  
 Com. W. Mudge; Assistants, Lieuts.

J. Harding, G. A. Frazer.—Coast of Ireland.  
 Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.  
 Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.  
 Lieutenant C. G. Robinson.—North Coast of Wales.

## PAID OFF.

JUPITER—22d May, Woolwich.  
 NIMROD—19th May, Plymouth.  
 LEVERET—19th May, Plymouth.  
 SNAKE—Sheerness.

## PROMOTIONS AND APPOINTMENTS.

## PROMOTIONS.

CAPTAINS—E. A. Frankland.  
 LIEUTENANTS—E. G. Fishbourn, Hon. L. Ashley.  
 MASTERS—J. Wemyss, W. Cox, P. C. D. Bean.  
 SURGEONS—J. Gibson, G. Mottley, A. K. Ballard, J. Baird. (b)  
 PURSER—T. Harris.

## APPOINTMENTS.

ALLIGATOR, 28—*Mast.* (act.) W. Curzon.  
 ASTREA, 6—*Surg.* W. Donnelly, M.D.  
 BARHAM 50—*Capt.* A. L. Corry;  
*Lieuts.* F. Hutton, C. M. Matheson, K. Corbett, J. H. Windham; *Master*, J. Davies; *Surg.* W. Huey; *Purser*, H. B. Long; *Chaplain*, Rev. E. Pattiman;  
*Mates*, R. Boyd, R. T. Bedford, G. B. Anstruther, P. Hadson; *Asst. Surg.* F. Mansell, M.D.

BASILISK, 10—*Asst. Surg.* A. Anderson; *Sec. Master*, J. Elliott; *Clerk*, E. Maturin.  
 BLAZER, St.V.—*Asst. Surg.* J. Paterson.  
 BLONDE, 46—*Capt.* (act.) R. Smart; *Lieut.* (act.) J. Kennedy; *Lieut.* T. V. Anson.  
 CALEDONIA, 120—*Lieut.* H. M. Ellicombe.  
 CAMELEON, 10—*Mate*, G. Johnstone.  
 CANOPUS, 84—*Lieut.* Hon. L. Ashley.  
 CARRON, St.V.—*Lieut.* B. Aplin.  
 CHALLENGER, 28—*Surg.* (act.) W. Lane; *Asst. Surg.* J. A. Mould.  
 CLIO, 16—*Com.* W. Richardson; *Lieuts.* F. T. Brown, F. Scott; *Master*, T. Morgan; *Surg.* D. Knight; *Purser*, W. Cotsell; *Sec. Mast.* S. Wellington; *Mate*, J. Mitchell; *Asst. Surg.* T. Bre-



nan; *Mid.* H. Lloyd, R. M'Kinley; Clerk, T. Sullivan.

CHAMPION—Com. R. Fair; *Lieuts.* Hasta, T. R. Reid; *Surg.* W. Parker; *Surgeon*, P. S. Hampton; *Purser*, W. B. Braham; *Asst. Surg.* W. Liddell; *Mates*, C. Atkins, H. Beresford, A. Jeffreys.

COAST GUARD—Coms. P. Christie, W. Shepherd; *Lieuts.* A. Shillingford, H. F. Sewell, J. Richards, W. Southey.

DUBLIN, 50—*Lieut.* T. Chaloner.

EXCELLENT, 76—*Lieuts.* E. H. Kenney, R. E. Bullen; *Surg.* W. Price; *Purser*, J. Maddocks; *Mate*, H. Giles; *Mid.* H. Kinsman, R. J. St. Aubyn.

EDINBURGH, 74—*Asst. Surg.* A. Kilroy.

FAVORITE, 18—*Mate*, W. Wemyss.

FAIRY, *Surv. V.*—R. Hoskyn.

HOPE, Transport—*Lieut.* S. Spencer.

HECTOR, *Surg.* M. Price.

JACKDAW, *Mate*, H. Cushman.

MAGICIENNE, 24—*Capt.* G. W. St. John Mildmay; *Lieuts.* J. R. Lilburn, A. Forbes, Hon. B. C. F. Carey; *Master*,

B. W. Robinson; *Surg.* J. Kidd; *Purser*, R. Tronson; *Second Master*, G. R. Nicholson; *Mates*, F. Stanley, A. Wood-

ley, H. Solly, R. Barwell; *Midshipmen*, C. J. Austin, S. Markland, E. J. Brown,

A. J. Woodley, H. G. St. John Mildmay, Hon. G. Douglas; *Clerk*, F. Siddle.

MANGLES, Convict—*Surg.* P. Sueter.

METEOR, *St. V.*—*Sec. Mast.* H. Jeffery.

PARNELIA—*Lieut.* W. Scrymgeour.

PEARL, 20—*Com.* H. Nurse; *Lieut.* H. Matson; *Surg.* A. Gilchrist, M. D.; *Pur.*

J. Chimmio; *Mate*, T. Wilson.

PIGEON, Packet—*Lt. Com.* J. Harvey. PIQUE, 36—2d *Master*, W. Lidstone; *Schoolmaster* (act.) R. Tucker.

PORTLAND, 52—*Assist. Surgeon*, R. Fairservice.

PRINCE REGENT—*Lieutenant*, G. B. Davison.

SAN JOSEF, 110—*Lieut.* A. Kortwright.

SAPPHIRE, 28—*Lieuts.* J. Foote, H. Byng; *Master*, (act.) J. C. Colborne;

*Mates*, G. J. H. Munro, J. E. Patterson; *Sec. Mast.* P. Wellington; *Mids.* G. V. Jeffreys, W. R. Surridge, Hon. R. A. Drummond, E. Scrogg.

SATELLITE, 18—*Com.* (act.) G. W. C. Lydiard.

SHEERNESS Dockyard—*Boatswain*, P. Johnson.

SPARROWHAWK, 16—*Pur.* T. Harris.

STAR, Packet—*Lieutenant*, J. Binney; *Master*, P. C. D. Bean.

THUNDERER, 84—*Assist. Surg.* W. T. Rogers.

TRIBUNE, 24—*Mids.* J. M'Leod, B. Cockcroft.

TRINCULO, 18—*Command.* (act.) H. J. Puget.

TWEED, 20—*Lieut.* J. A. Bate; *Surg.* H. Price; *Mids.* G. Dewes, W. Bailey,

W. H. Stewart, P. Hudson; *Clerk*, D. Bowling.

VICTORY, 104—*Assist.-Surgs.* J. Buchanan, N. Derriman.

*Mids.* G. Bellis, J. J. Stopford.

VIPER, *Rev. Cut.*—*Mid.* W. R. Hall.

WINCHESTER, 52—*Lieut.* S. Grenfall.

## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 319.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
150 Active	Of Crail	Dundee	P. Dundas	Crail	14 Apr.	
151 Alexander		London	Hamburg	Holm S.	9 May	Crew saved.
152 Blackbird	Miller	Sunderland		Winterton	30 Apr.	4 drowned.
153 Brothers	Langdon	Wicklow	Swansea	Off Wicklow	15 Apr.	Crew saved.
154 Constant	Waite	Berwick	Liverpool		26 Apr.	Crew saved.
155 Elizabeth	Evans	Carnarvon	Rumcorn	Spurrs Gt.	25 Apr.	Crew saved.
156 Erin	O'Neal	Newry	Bristol	Off Newry	15 Apr.	Crew saved.
157 General Sharp	Young	Maryport	Dumfries	Off Newport	16 Apr.	Crew drowned.
158 Hero	Mickle	Newcastle	Dublin		26 Apr.	Crew saved.
159 Mary	Ray	Gloucester	Dublin	Off Caldy P.	29 Apr.	Crew saved.
160 Oceana	Leslie	Liverpool	N. Orleans	Silver Cay	20 Mar.	Crew saved.
161 Phoenix	M'Innes	Brora	Liverpool		26 Apr.	Crew saved.
162 Samuel		Teignmth.	Ipswich	E. Channel	2 May	Crew saved.
163 Sanby	Greenacre	Wisbech	Southton	Not heard of	49 Feb.	
164 Speedwell	Jarvis	Harwich	London	Huncy S.	14 May	Crew saved.
165 Williams	Robertson	Alloa	London	Middle S.	29 Apr.	Crew saved.



## FALMOUTH PACKETS.

## FALMOUTH, 20TH MAY.

## LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
SCORPION .....	Lt. Com. N. Robilliard.	1 May	_____	_____	29 May.
VIPER .....	Lt. Com. L. A. Robinson	1 May	_____	_____	29 May.
ESPOIR .....	Lt. Com. C. Riley .....	11 May	_____	_____	8 June.
PIKE .....	Lt. Com. A. Brooking..	15 May	16 April	Lisbon....	12 June.
PANTALON .....	Lt. Com. N. Cory .....	22 May	_____	_____	19 June.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days; sails 1st of every Month.—Route—*Gibraltar, Malta, Greece, Corfu, Egypt, and India*, and thence returns in the same rotation.

FIREFLY .....	Lt. Com. R. Baldock ..	8 May	_____	_____	30 June.
TARTARUS .....	Lt. Com. H. James ....	4 April.	_____	_____	27 May.

NORTH AMERICA—9 weeks : sails 1st Wednesday every Month.—Route—*To Halifax and back to Falmouth.*—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

STANMER .....	M. R. Sutton.....	5 April	_____	_____	7 June.
CAMDEN .....	Lt. Com. J. Tilley ....	9 May	_____	_____	11 July.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 1st of every Month.—Takes La Guayra Mail.

SWALLOW ....	Lt. Com. S. Griffith....	4 Mar.	_____	_____	27 May.
NIGHTINGALE..	Lt. Com. G. B. Fortescue	5 April	_____	_____	28 June.
MUTINE .....	Lt. Com. R. Pawle ....	3 May	_____	_____	26 July.

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—*Crooked Island, Havana, Vera Cruz, Tampico, Vera Cruz, Havana, Falmouth.*

ECLIPSE.....	Lt. Com. W. Forester ..	18 Feb.	3 April	Havana	8 July.
LYRA .....	Lieut. Com. J. St. John	19 March	_____	_____	28 August.
PLOVER .....	Lt. Com. W. Downey ..	17 April	_____	_____	4 Septem.
PANDORA .....	Lt. Com. W. P. Croke..	18 May	_____	_____	4 October.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks : sails 15th of every Month.—Takes Carthagena Mail.

BRISIS .....	Lt. Com. J. Downey ..	18 Mar.	_____	_____	10 June.
SPEY .....	Lt. Com. R. B. James..	17 April	_____	_____	10 July.
REWARD.....	Lt. Com. G. B. Dunsford	18 May	_____	_____	10 Aug.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks : sails 1st Tuesday every Month.—Route—January to August inclusive: to *Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.*—September to December inclusive: to *Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.*

PIGEON .....	Lieut. Com. J. Binney ..	6 Feb.	16 Mar.	Rio	26 June.
LAPWING .....	Lt. Com. G. B. Forester ..	14 Mar.	31 Mar.	Madeira	2 August.
SKYLARK .....	Lt. Com. C. P. Ladd .....	11 April	19 April	Madeira	29 August.
MELVILLE ....	Lt. Com. C. Webbe ....	9 May	_____	_____	26 Sept.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

AFRICAN—Lieut. Com. J. West, 2d May arrived from the Mediterranean.	PELHAM—Lieut. Com. W. Leslie, 9th April arrived from Mexico.
DUKE OF YORK—Lieut. Com. W. James, 8th May arrived from Halifax.	REINDEER—Lieut. Com. H. P. Dicken, 11th May arrived from Halifax.
GOLDFINCH—Lieut. Com. E. Collier, 12th May arrived from Brazil.	SEAGULL—Lieut. Com. R. Parsons, 9th May arrived from Mexico.
NAUTILUS—Lt. Com. W. Crooke, 17th May arrived from Lisbon.	SHELDRAKE—Lt. Com. S. Griffith, 8th April arrived from Leeward Islands.
OPOSSUM—Lieut. Com. R. Peters, 23d April arrived from Mexico.	TYRIAN—Lieut. Com. E. Jennings, 9th May arrived from Leeward Islands.



**DRUMMOND'S LIGHT.**—We understand that one great difficulty against the application of this *splendid* discovery for use in our light-houses has been overcome. The frequent interruption to which the light would be subject in supplying new limeballs is done away by substituting a cylinder of lime which may be made of any length, and which, by means of a spring, may be so regulated as to preserve the necessary height at all times. We don't know a more desirable acquisition to the mariner in dark nights than a good light-house well lit.

### Births.

On the 5th March, at Upper Deal, the lady of Lieut. S. Ross Watts, R. N., of a son.

On the 22d May, the lady of Lieut. Walker Taylor, R. N., (third son of the late Lieut. Col. Taylor,) of a son.

At Portsea, the lady of Dr. Gilbert King, of H.M.S. Victory, of a daughter.

### Marriages.

On the 22d May, at Plymouth, Geo. Thorne, Purser, R. N., (1801), to Harriette Netherton, niece and sole executrix of the late John Hitchens, Esq., Comptroller of the Customs, &c. at the port of Gweek, Cornwall, and left for the Continent.

At Calstock, Lieut. J. Proctor, R. N., of Wetherall, in that parish, to Ann, only daughter of the late Mr. Alexander Williams, of Sydenham, and niece of Captain John Williams, of Virtuous-Lady Mine, and of Commercial Wharf, Plymouth.

On the 21st April, at Church Eaton, by the Rev. Wm. Bird, John Lord, Esq., Purser, R. N., to Anne, youngest daughter of the late William Wyley, Esq., of High Ann Hall, Staffordshire.

At Chichester, Capt. Pilkington, R. N., to Charlotte daughter of the Rev. W. S. Baton, of Eastergate.

On the 6th May, at Great Malvern, Andrew Morison, Esq., Surgeon, R. N., to Margaret Wallace, eldest daughter of the late Colonel Hugh Houston.

### Deaths.

On the 12th May, at his seat on Blackheath, Admiral the Hon. Sir Arthur Kaye Legge, K. C. B., in the 69th year of his age.

At Ryde, at an advanced age, Vice-Admiral Walter Locke.

At St. John's Wood Road, London, aged 69, Admiral Lewis.

At Sidmouth, Rear Admiral George White, aged 74.

Aged 85, Rear Admiral James Bowen.

At Cosgrove Priory, Northampton, Admiral Sir R. Moorsom, aged 75.

On the 2d of May, Commander Miller Worsley, R. N., was found dead in his bed at the White Horse, Fetter-lane; he had been dwelling there some time, and generally retired late, as he did on the preceding evening, giving orders not to enter his room until he rang the bell, which never happened till afternoon. The usual signal not having been given, the maid entered the room, and found Mr. Worsley dead.

At Greenwich, Lieut. Wm. Taylor, (1794), one of the officers of that establishment.

Suddenly, at Dumfries, Capt. Charles James H. Johnstone, R. N., third son of the late Sir William Hope.

At Chatham, April 20, Mr. W. Amey, master of H. M. S. Alfred, and buried with military honours in the Chatham burial-ground.

After a lingering illness, Capt. Wm. Kempthorne, R. N.

On the 26th April, at Oakley House, Suffolk, Commander John Worth, R. N., in the 26th year of his age.

At Portsmouth, on the 2d May, Mr. D. M'Coy, Master, R. N., (1788), aged 75.

At Belturbet, Alexander Charlton Bell, Esq., surgeon, R. N. aged 85.

Lately, at Sandwich, Mr. Frederick Pettman, Purser, R. N.

Recently, in the West Indies, Mr. W. Travers, Midshipman of the Racer, son of Capt. Sir Eaton Travers, R. N.

On the 3d May, Mr. Alexander Baird, late Surgeon, R. N.

On the 28th March, at Port Royal, Jamaica, Mr. John Fiddes, Purser of the Racehorse sloop of war.

Lately at Sandwich, Mr. Frederick Pitman, Purser, R. N.

At Deal, Jos. Sherrard, Esq., Purser, R. N.

At Haslar Hospital, in the 45th year of his age, Capt. G. Strangways, R. N.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

APRIL, 1835.													
Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	W.	29.99	29.97	55	62	44	64	S.W.	S.W.	2	3	Bc.	Bc.
2	Th.	29.87	29.81	60	67	46	68	S.	S.	2	3	Bc.	Bc.
3	F.	29.83	29.83	58	63	52	64	S.W.	S.W.	3	3	O.	O.
4	S.	30.14	30.16	48	53	46	53	N.	N.	1	1	O.	Od (4)
5	Su.	30.22	30.26	48	49	44	50	S.E.	E.	3	3	Gd 2)	Gd (3)
6	M.	30.38	30.38	49	58	36	58	S.	S.W.	3	3	B.	O.
7	Tu.	30.41	30.37	50	59	37	60	S.E.	S.W.	2	2	B.	B.
8	W.	30.35	30.29	53	62	39	63	S.W.	S.W.	5	5	B.	B.
9	Th.	30.22	30.16	54	60	43	61	S.W.	S.W.	5	5	Bcm.	Bcm.
10	F.	30.22	30.20	52	55	52	56	N.W.	N.W.	6	7	Od 1)	Bc.
11	S.	30.35	30.37	44	49	39	50	N.E.	N.E.	5	5	Bcm.	Bcm.
12	Su.	30.30	30.24	42	52	31	53	N.	N.W.	3	3	B.	B.
13	M.	30.17	30.15	48	55	39	57	W.	N.E.	1	1	B.	O.
14	Tu.	30.16	30.12	52	60	41	61	S.	S.	3	4	B.	B.
15	W.	29.93	29.91	48	50	39	54	S.W.	N.	2	6	B.	O.
16	Th.	30.19	30.11	35	44	31	45	N.	N.W.	7	6	Bc.	Ops 3) s(4)
17	F.	30.16	30.16	33	41	26	42	N.	N.	4	5	Beps. 2)	Beps. (3)
18	S.	30.06	29.96	42	46	30	46	N.W.	N.W.	3	5	O.	Od (4)
19	Su.	30.26	30.36	41	47	36	48	N.W.	N.	4	4	Bcm.	Bcm.
20	M.	30.47	30.47	52	56	42	56	W.	W.	2	2	O.	O.
21	Tu.	30.46	30.44	53	55	43	57	S.W.	W.	3	4	O.	O.
22	W.	30.43	30.42	54	57	45	58	N.W.	N.W.	5	6	Op 1)	Bcm.
23	Th.	30.44	30.38	50	52	43	53	N.	N.	4	4	O.	O.
24	F.	30.38	30.30	51	56	46	58	N.	N.W.	3	3	O.	O.
25	S.	30.11	30.00	49	48	44	50	N.W.	N.W.	6	7	Bc.	Op (3)
26	Su.	29.72	29.66	42	46	37	47	N.	N.	6	6	Qbcpshr 2)	Qbcpshr (3)
27	M.	29.62	29.60	38	46	28	48	N.E.	N.	4	3	B.	Bcpsr (4)
28	Tu.	29.82	29.80	46	50	29	51	N.E.	N.E.	5	6	Bc.	Bc
29	W.	29.67	29.63	40	43	38	44	N.E.	N.E.	8	8	Oqr. (2)	Oqr (3) (4)
30	Th.	29.54	29.56	46	51	42	52	N.E.	S.W.	2	2	Or (1) (2)	Or (3)

MARCH—Mean height of Barometer=30.116 inches; Mean Temperature=46.9 degrees;  
Depth of Rain fallen=0.94 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hall.
6 Strong Breeze.	l Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	p Passing temporary showers.
10 Whole Gale.	q Squally.
11 Storm.	r Rain—continued rain.
12 Hurricane.	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	Under any letter indicates an extraordinary degree.

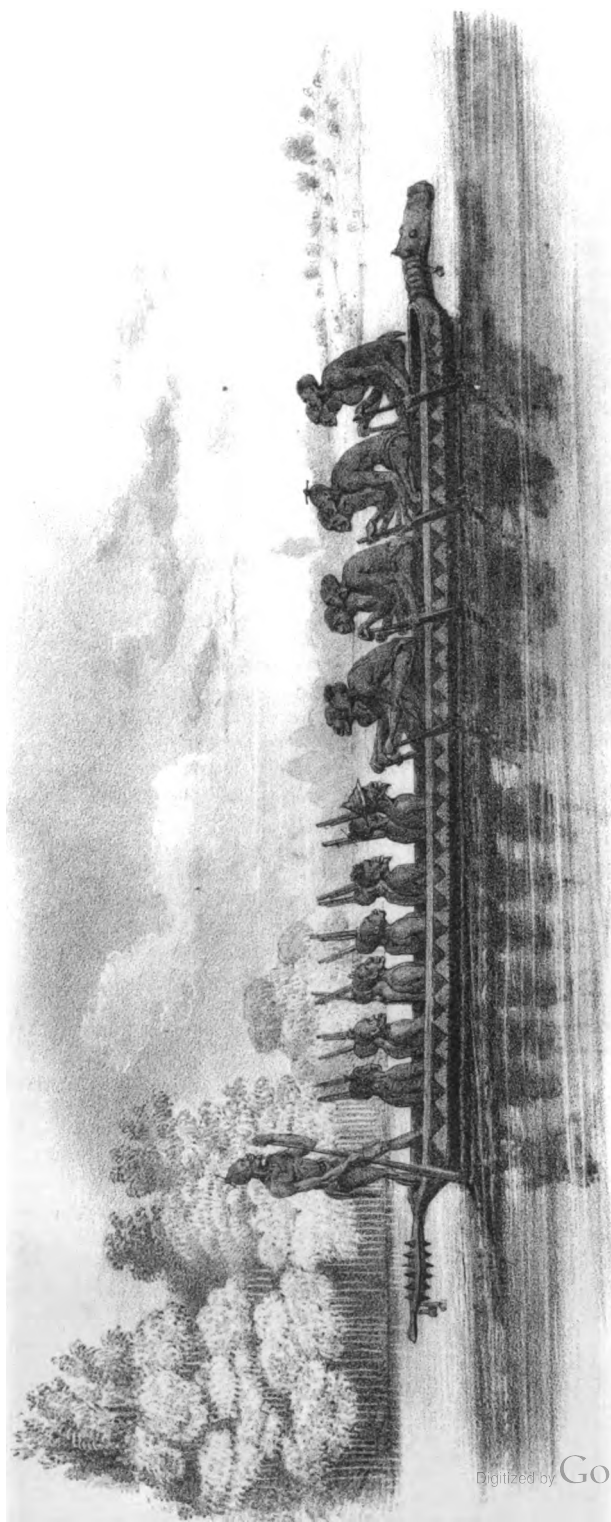
*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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[illegible]





W. H. Church del.

Eng. & Stipple 118" x 16 1/2" by H. King.

WAR CANOE, of the BIJOGA ISLANDS, AFRICA.

Pub<sup>d</sup> for the Proprietors of the Nautical Magazine by Simpkin & Marshall 1834.



## ORIGINAL PAPERS.

JULY, 1835.

35. DESCRIPTION OF THE BAY OF TODOS OS SANTOS, OR OF SAN SALVADOR, *commonly called BAHIA, with Instructions for Sailing in and out of it.*(True Bearings. Var.  $1^{\circ} 58' W.$ )

SHIPS destined for Bahia during the southerly monsoon, should steer for the morro of San Paulo, in latitude  $13^{\circ} 21' 53'' S.$  and longitude  $38^{\circ} 54' 23'' W.$  Although this morro is of little height, it is sufficiently remarkable by being backed and followed to the northward by land lower than itself, and by having on its north extremity five or six cocoa-nut trees divided into two groups, and very distinct in comparison with the surrounding land. The hummock which terminates this morro to the north, seen near, presents on the side next the sea large white spots, which form a striking contrast with the surrounding verdure, and which may be seen at the distance of eight leagues in clear weather.

To the northward of the morro of San Paulo the coast is low, sandy, and bordered with reefs; it forms a deep bay, after which it turns to the N.E. and joins, at least in appearance, with the high land of the island Itaporica, which forms the west side of the entrance of San Salvador.

The separation between the west side of the island and the continent, forms what is called the false bar, or false entrance, of Bahia, which is very narrow, tortuous, shallow, and cannot easily be distinguished. It will admit but very small vessels; and even the coasters do not use it, except when trading there, or when the wind will not permit them to use the principal entrance.

From the morro of San Paulo to Cape St. Antonio the distance is 10 leagues, and the direction is N.  $46^{\circ} E.$ : in fine weather these two points are visible from each other.

From near the morro of St. Paulo a ship may steer N.E. without danger: a depth of 34 to 12 fathoms water will be found on a bottom of mud, sand, gravel, and coral, and this course will lead at a convenient distance between the edge of the banks to the southward of Itaporica and that of St. Antonio. A large vessel should not go to the N.W. of this line, while to the southward of Itaporica, and if the wind blow strongly on the coast, she should keep outside until certain of being on the meridian of the point Tabaru, the east point of that island, which will be known by the depth being above 12 fathoms.

If necessary to work to windward, it will be advisable to go no nearer than five miles to the coast of the continent, when to the southward of Itaporica, and to keep at the same distance from the



island until point Tabaru bears north. With this point bearing north, and at seven miles from it, Cape St. Antonio will bear  $N. 41^{\circ} E.$  distant five miles, and the south extremity of the bank, off the cape, about a league to the eastward, and from thence a course may be shaped for the cape until within half a mile of its shore, and then another direct for the church of Bom Fim, until abreast of the Fort do Mar, near which is the ordinary anchorage.

The principal entrance of the bay of Todos os Santos, or San Salvador, (the name of the principal town,) is formed on the east by the continental promontory of Cape St. Antonio, and on the west by the island Itaporica. The narrowest part of the channel is about  $4\frac{1}{2}$  miles, between the point of Fort Cabo, on the main, and that of N. S. da Penha, in Itaporica, but only about half of that space (the nearest to the continent), is navigable for large vessels, owing to ledges of rocks and uneven ground, extending from the east and south-east sides of the island Itaporica, and which should not be approached less than to 8 or 9 fathoms.

On the east side of the channel is the Bank of St. Antonio, the S.W. extremity of which is rather more than four miles  $S. \frac{1}{2} W.$  from the Cape St. Antonio. This bank is composed of red sand mixed with coral; the least depth on it is said to be  $3\frac{1}{2}$  fathoms, but, as the sea sometimes breaks over some parts of it in strong winds, it is always best to pass outside of the above distance in a large ship. The depth of 7 fathoms limits this bank on the south in the parallel of  $13^{\circ} 5'$ ; on the west,  $S. 12^{\circ} W.$  from the fort of St. Antonio; and on the east,  $S. 29^{\circ} E.$  from the same fort.

There is between this bank and the shore a channel with a depth of 12 fathoms in it, having a muddy bottom, and frequently adopted by vessels. But, in going in, the wind almost always allows a vessel to fetch the anchorage before the town by one board, by passing to the southward of the bank. At 1 or 2 miles to the eastward of the southern point of the bank, the depth is regular, from 20 to 40 fathoms, and which may be carried close to it.

The bottom, in the vicinity of this bank, is a mixture of sand, coral, and coarse gravel; mud is only found to the N. E. in approaching the land. At 3 leagues from the coast, with Cape Antonio N. to W.N.W., the depth is not more than 45 fathoms, and a little further on the same direction no soundings have yet been had.

The whole of the land which composes the promontory terminating in the south at Cape St. Antonio, is well elevated, in comparison with that of the opposite side of the bay; it is covered by trees and verdure; and it may be seen, in fine weather, at the distance of 10 leagues.

Ships bound to the bay of Todos os Santos during the



northerly monsoon, should endeavour to make the land some leagues to the northward of the point Itapuan, which is on a parallel a little north of Cape St. Antonio. During the southerly monsoon, they should steer for the morro of San Paul.

The only precaution necessary to be taken by ships from the northward, in order to avoid the bank of St. Antonio, is to give a berth of 4 to 5 miles to the Cape, in rounding it, until it bears N. by E.  $\frac{1}{2}$  E., when they may steer for the church of Bom Fim, (on the peninsula of Mont Ferate,) until abreast of the Fort do Mar, or of San Marcello, near which is the ordinary anchorage. The depths in this course vary from  $10\frac{1}{2}$  fathoms (at a mile west of the bank of St. Antonio) to 18 fathoms, (at the same distance from the fort of that name.) Closing afterwards the shore, the depths will diminish gradually, to 9 or 8 fathoms, near the Fort do Mar. If in making this route the wind should prove contrary, some boards may be made of 2 or 3 miles, between the bearing which joins Cape St. Antonio to the church of Bom Fim, and the banks on the S.E. coast of Itaporica; but it will be necessary to keep the lead going on both tacks, and not to go into less than 7 fathoms.

The ordinary anchorage of ships of war is between West and S.W. of fort do Mar, at the distance of 2 to 10 cables' length from that fort.

The following bearings were taken at the anchorage, in nine fathoms on bottom of sand :

The point Manguinha (of Itaporica) at . . . N.  $53^{\circ}$  W.

The port St. Antonio . . . . . S.  $19^{\circ}$  W.

The point of Mont Ferate . . . . . N.  $10^{\circ}$  E.

The great number of anchors lost in this bay renders it necessary to round the cables, and examine them frequently.

The anchorage of merchant-ships is within the line that joins the fort do Mar and the point of Mont Ferate. In going in, the Panella rock must be avoided; which the pilots place at 160 fathoms W. by N. from Fort do Mar, and on it, they say, there is not found more than  $3\frac{1}{2}$  fathoms at low water.

The best place within the anchorage, for ships of war, is opposite the obelisk of the public garden: moor in a N.N.E. and S.S.W. direction, that of the flood and ebb tides.

The prevailing wind is from East and S.E. with which ships may get in on one board. During the night, the wind is from various points of the compass, and principally from the land side.

The bay of Todos os Santos, considered in its whole extent, forms a deep gulf in the continent: the gulf, which bears the name of Reconcavo, is nearly 30 leagues in circuit: the sea penetrates every part of it, and it receives the waters of several rivers, of which some are considerable.

The largest fleets will find safety in Bahia: in many parts, ships



anchored on excellent ground will resist all winds, and at the same time the fertility of the neighbouring country will supply them abundantly with all the resources they may require.

The town of San Salvador, often called by the name of Bahia like the bay itself, occupies a large space, and contains some handsome edifices. It is built on uneven ground, interspersed with gardens, and is divided into the Upper Town and the Lower Town. Next to Rio Janeiro, the town of Bahia is the largest and most important in all Brazil: it contains at least 100,000 souls. Many forts, built as well on the higher as on the lower parts of the coast, command the anchorage and protect the town: the marine arsenal is defended by the Fort do Mar, a circular work constructed on a bank of sand, about 213 fathoms in circumference.

The position of this fort is as follows: latitude of the flag-staff  $12^{\circ} 58' 23''$  S. longitude  $38^{\circ} 31'$  W.

The variation of the magnetic needle observed near it, in the month of November, 1819, was  $1^{\circ} 58'$  W.

The difference between high and low water, observed at the anchorage above indicated, has been found 7 feet in the syzygies, and 3 feet only in the quadratures: it is high water at the same place at 4h. 15m. on the days of new and full moon.

The ordinary system of the tides is perfectly regular in Bahia: at the anchorage before the town, the flood and ebb are equal, and their direction is alternately N.N.W. and S.S.E.; their strength under ordinary circumstances does not exceed 1,5 mile per hour, but in the spring tides it is sometimes as much as 2,5 miles.

The winds from south to north by the east, which prevail most frequently, are always weakened by the heights under which vessels anchor, and the land winds seldom have any strength.

In the southerly monsoon only, and principally in the months of July, August, and September, the winds veering sometimes to S.W. blow home into the bay, and cause a great sea, which is very incommodious, particularly at the change of the tides. But these circumstances are of short duration: they occur generally at the times of new and full moons, and do not last beyond three or four successive days.

Ships will find at Bahia the means of providing for all their wants: they may careen, remast, and repair all sorts of damage; but the workmanship is very dear, as in the other large ports of Brazil.\*

In the fine season all kinds of repairs may be made at the anchorage west of the town: during the other part of the year it will be more prudent to make them at Tapagipe, a little bay

\* See p. 468 of the 2d Vol. of Nautical Magazine, where is an instance of 12 carks of water costing £20.



situated to the eastward of the peninsula of Mont Ferate, where the water is smooth as in a basin.

There are good watering places at many points of the interior coast of Bahia: water is easily obtained either near the fort Gombo, under the public garden, or at some distance to the northward of the marine arsenal; but when a number of ships cause a great concourse of boats, it will be better to go to Tapagipe to seek water in a great quantity.

Wood for fuel is abundant at Bahia; and in 1819 we were enabled to substitute the common coal, which foreign commerce has begun to introduce into the country.

Provisions and the necessary refreshments for shipping are easily obtained there, nearly at the same price as at Rio Janeiro: it consists principally of cattle, flour of yucca root and wheat, rum, poultry, hogs, dry fish, fruits, and vegetables of the tropics.

Finally, the air is very healthy at Bahia: the heights of the town particularly are perfectly salubrious, and, in a great number of points, this bay is one of the most healthy and agreeable that can be found.

The route for going out of Bahia is the same as that for coming in. A vessel must run along the coast at half a mile to a mile distance, until she is abreast and to the westward of the lighthouse of Cape St. Antonio: in this track, from the Fort do Mar, from 9 to 20 fathoms will be found; and if further off, a greater depth, even to 28 and 30 fathoms. Arrived at one mile west of Cape St. Antonio, and steering S. S. W.  $4\frac{1}{2}$  miles, the shoal of the Cape will be passed in a good depth; after which, a course may be shaped for the eastward.

### 36. EAGLE ISLAND LIGHT-HOUSES, *Western Coast of Ireland.*

The Corporation for preserving and improving the Port of Dublin, &c. hereby give notice, that two Light-Houses have been erected on Eagle Island, off the West Coast of Ireland, from which two fixed bright lights will be exhibited on the evening of the 29th of September, 1835, and thenceforth will be lighted from sun-set to sun-rise.—Specification given of the position, &c. of the towers, by Mr. Halpin, Inspector of Irish Light Houses:

Eagle Island, situate off the N. W. Coast of Erris, County of Mayo, bears by compass,

From the Stags of Broadhaven,	West.	dist. 11 sea miles.
Erris Head . . . . .	West.	„ 3 $\frac{1}{2}$ do.
W. Point of South Inniskea Isl.	N. E. by E.	„ 11 $\frac{1}{2}$ do.
The Black Rock, . . . .	E. N. E. $\frac{1}{4}$ N.	„ 14 $\frac{1}{2}$ do.
Achil Head, . . . . .	N. E. $\frac{1}{4}$ E.	„ 19 do.



The two lights on Eagle Island bear from each other E. by N.\*—S. by W. and kept in a line, will lead 3 miles to seaward of the Black Rock, and  $2\frac{1}{4}$  miles seaward of the Stags of Broadhaven, and clear of all outlying rocks between Blacksod Bay and Broadhaven. The lanterns are elevated 220 feet over the level of high-water mark, and are not illuminated landward from E. by S. to S. by W.  $\frac{1}{4}$  W.

"By Order, HENRY VEREKER, Sec."  
*"Ballast Office, Dublin, 7th May, 1835."*

### 37. REMARKS ON TRIPOLI.

Magnetic Bearings.

(Continued from page 328.)

BEYOND this a stranger should not go without a pilot, or without making himself acquainted with the channels which lead into the harbour, and in either of these cases I should recommend anchoring, as he will then be in a very good berth, in from five to six fathoms outside the shoals, well sheltered from northerly or north-west winds, and only open to the north-east, when the wind would be fair for running in.

I will now proceed to describe the marks for passing between the middle bank and the shoals which lie off the harbour rocks, repeating, that the channel is too narrow for a stranger to attempt, without having first ascertained by sounding that he has not mistaken the marks.

A reference to the plan will show that the space between the middle bank and the shoals off the rock is divided into two channels; first, by some irregular patches, having nineteen feet water on them, and then, by a very small patch with only seventeen feet on it, the distance between the latter and the banks on each side not exceeding fifty fathoms. Of these two channels, the southernmost has the deepest water, the least that I have found being twenty-three feet. It may be entered by attending to the following directions.

After opening the Mole fortification of the harbour rocks as before, steer for the English fort, (a large white fort, partly circular, a quarter of a mile to the westward of the consul's garden,) keeping the door of a burying-ground lying close behind it, well open of the east angle of the fort, until you bring the domes of the southernmost mosque in the town nearly to touch the N.E. angle of the castle, which has a high flag-staff on it. A large date-tree standing close to them will then be nearly touching the flag-staff, and half the space between the 2d and 3d embrasures in the town-wall will be open of the S.E. angle of the castle. Steer in, keeping the tree in this position; and it will carry you in, in the deepest water. The centre of the tree brought at all to the southward of the flag-

\* Query, W. by S.? — ED.



staff leads on the point of the middle bank. With the tree a little open to the northward, a large minaret behind the castle will be open to the southward of a window in the castle; if brought to touch it, it leads upon the seventeen-foot patch.

*To enter the Northern Channel.*—Keep the north edges of the last mentioned minaret and window in one. With this mark, both the *Belvidera* and *Actæon* entered the harbour; the *Belvidera* drawing nineteen feet six inches; and in the centre of the channel there are several irregular casts of 20 and 21 feet.

The narrowness of these channels must sufficiently point out the necessity of being well acquainted with the marks, whilst the very nature of those I have described, and I know no better, make them liable to be mistaken.

The marks once known, a ship may run in by them without fear. There are no good cross marks to shew when the banks are passed. The best is, when the flag-staff on the English fort comes on with the western angle of the burying-ground behind it, you are inside the middle bank, and you will have a very good berth, by letting go your best bower, with the flag-staff of the same fort on with the centre angle of the burying-ground, and the minaret and window in one, mooring with open hawse to the northward. Upon our arrival, we found a French brig and Neapolitan schooner moored with open hawse to the eastward; but this I think wrong, as in the three months of October, November, and December, with continual blowing weather from between north and west, we only once had the wind to the eastward of N.E., and then, though blowing very hard from N.E. b E. no sea came into the harbour. In the gales of wind, both from N.W. and N.E. the ships always rode very easily; and I observed, that in the strength of the gale, when the sea broke heavily on the reefs, there was less sea inside than at the commencement, when there was enough sea to come through the different channels without breaking. In the N.E. gale, the outset was so strong, that the ship rode with the wind four points on the bow; and one of our buoys, which broke adrift, was picked up to the eastward of the consul's garden.

There is also a passage into the harbour to the southward of the Middle Bank; but from the irregularity in the soundings, and the number of different courses necessary to be steered, I should not recommend a ship to attempt it. Small vessels also run in between the first and second rocks, passing about half a cable to the westward of the second rock in 14 feet water.

The bottom throughout the harbour is sand with a slight mixture of mud, and numerous beds of weed. Though not very good holding-ground, it is by no means bad, as we never brought our anchors home. The *Belvidera*, a little to the westward of us, in two instances brought her's home a few fathoms. The depths are very irregular, particularly in the vicinity of the banks, but less so



towards the Pianura, where the bottom is free from weed. This circumstance, and the appearance of the shoal patches, led me to suppose that many of them are merely beds of weed; and I at one time thought it not improbable that they were heaped up by the gales of wind, and likely to be removed or shifted by the same cause; but after a succession of gales, I could not detect the slightest change in the position of any of them. Some of them are so small, that they were not discovered until after the places, where they were, had been carefully sounded several times; and it is therefore probable that others may exist, notwithstanding the great pains taken in sounding the harbour.

With respect to the Kaliusa and North-east Reefs, I shall not attempt to give any description of the passage inside them, as the constant blowing weather prevented me from completing the examination necessary to ascertain the best passage; I will merely mention that it must be between the two following marks.

The date-tree mentioned as the leading mark for the channel into the harbour, kept a little open to the northward of the castle, clears the point of the shoal, running off shore in 4 fathoms.

The round fort, built on the detached rock, under the north wall of the town, kept half open of the Mole-end, clears the south side of the Kaliusa and North-east Reefs.

As there are several small banks between these two, it is not improbable that there may be some shoaler casts than those marked in the plan, but I do not imagine any thing very much shoaler would be found. The banks are composed of rock sand and weed. I am told that in one place there is as little water as three feet, but I did not hit upon it. A day or two before I left Tripoli, I was told by an old Scotchman, who goes by the name of Mourad Reis, and who has been forty years in the naval service of the Bashaw, that on the western point of the Kaliusa Bank there are several hewn stones of very large dimensions; he also mentioned a fact, which, *if true*, is curious and well worth inquiry into, that the space where the harbour now is, was formerly occupied by gardens, and that the papers giving the right to the possession of them are still in existence.

Though I could not observe that the tides were regular, there is a rise and fall of near two feet at full and change, but, of course, varying with the wind.

### 38. REPORTED ROCK OFF THE MALABAR COAST.

*To the Editor of the Nautical Magazine.*

Sir,—The ship Futtay Rahimon, Captain William Butler, saw a rock in lat.  $9^{\circ} 19' N.$ , long.  $76^{\circ} 21' E.$ : had soundings of thirty-five fathoms a quarter of a mile outside of it. If it was actually a rock that was seen, it must be very dangerous, as it is quite in the track of ships working up or down the Malabar coast.

Bombay, 13th June, 1834.

Yours, &c. ALBERT.



39. THE BAXO NUEVO SHOAL.—*From the Remarks of H. M. S. Winchester. Captain, the Hon. W. Wellesley ; Master, Mr. J. Napier.*

(Magnetic Bearings.)

The Baxo Nuevo or New Bank is a kind of belt of breakers, inside of which is smooth water, over a sandy bottom.

The Winchester made the east side of it, the two ends of which appear to bear N. by E. and S. by W. from each other, distant three or four miles. All along this side is one continual line of breakers, with here and there a small spot of sand appearing. It would hardly be possible, either on this or the north side, for a boat to get through. As far as could be seen from the masthead, the part forming the south side was not so closely connected.

Having in the Winchester run down to within three miles of the middle of the east side, we hauled up to the northward, and passed the north-east point within a mile and a half. This is by far the most dangerous part of it, from the strong tide setting over it to the south-west, and from the reefs which run off it. Near it is a sandy spit or key, as it is the most uncovered spot we saw. Off it we had the following soundings:—

The point bearing W.N.W. one mile and a half, 20 fathoms; west, one mile and a quarter, 20 fathoms; W.S.W. one mile and a half, 22 fathoms; S.W. two miles and a half, 34 fathoms. All fine sand and coral. When it bore south three miles, no bottom 45 fathoms; and S.S.E. three miles and a half, no bottom 80 fathoms.

The latitude and longitude of this point was determined as follows. It is fair, however, to state that the point bearing S.S.E. when the observation was taken for the latitude, makes it not so fully to be relied on as those on the Portland rock in page 132.

Latitude.....	15	53	26	N.
Longitude .....	78	34	4	W.

The latitude being half a mile to the southward, and the longitude one mile and a half to the westward of De Mayne's reduced.

We considered the whole extent of this shoal, east and west, to be about fifteen miles, estimated by the eye, and north and south five or six miles; and it seemed to us of a shape similar to a small vessel's fore and aft mainsail.

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HYDROGRAPHICAL REMARKS on a Voyage from Sydney to New Zealand. *From the Sydney Herald.*

I WILL now, gentlemen, with your permission, attempt a description of what came under my immediate notice, which will, at least, be the means of putting 'new hands' (like myself) who may visit the same place hereafter, on their guard. Owing to contrary winds on my arrival in Cook's Straits, I was necessitated to beat about for several days previous to reaching my first destination, the Islands, (the Warspite Island of Captain Dundas, R. N.) during which I discovered a shoal, not previously noticed, lying about ten miles south-west of Manná, upon which (as far as I could judge from the great way on the vessel) there is about five fathoms of water. You approach the roadstead of Manná either from the



northward or southward, the only danger being a reef, visible at half tide, which runs on about a mile off the southernmost headland of a bay or harbour on the opposite shore, called Purri-rná, which is immediately facing you on entering from the north-west, and which vessels may always avoid by keeping the island aboard.

The best anchorage is abreast of the boat-house, at the north end of the native Pá, or fort, at about a quarter or a half mile off shore; small vessels may, however, anchor with safety a cable's length off the island, abreast of the settlement. This island is the property of Mr. Bell, who is just gone down with a quantity of cattle, for the purpose of forming an establishment to supply vessels with stock, &c. A part of the island is already in cultivation, and a very fair crop of tobacco was grown there last season. Vessels homeward bound through Cook's Straits will find Manná a very convenient place to refresh at. The anchorage is safe at all times; wood and water are both good and plentiful; and fresh beef, mutton, lamb, and pork, with rabbits, poultry, and vegetables may be procured at Mr. Bell's establishment on reasonable terms. Whilst at Manná, I had an opportunity of witnessing an assemblage of the principal chiefs of most of the tribes on this part of the coast, who met there for the first time since the war, which had been carried on for five months previous to my arrival.

Te Rowparrá (one of the oldest chiefs) who had been the principal occasion of hostilities, was at first dubious as to the reception he would meet with from his compeers, so much so, that instead of going on shore, on arriving in his canoe from Cabitié, he stowed himself away in the vessel's cabin, and it was not till the succeeding evening at dusk, that he would leave her. On the morning of our departure, the meeting of the chiefs took place, when several speeches were made. Peace was proclaimed, and, as usual, a feast concluded the ceremony. I could not but observe the sarcastic and significant looks of some of the principal chiefs, from which I would infer, that their present acquiescence was but feigned, and that hostilities would break out again at no very distant period. Be that, however, as it may, Te Rowpaará (from all accounts) has proved himself in the late war an able general and experienced tactician, and, by a cunning peculiar to himself, has not only overcome a vastly superior force, but actually embroiled a more inveterate foe in the contest, whom he first made fight his battle, and afterwards propose a cessation of hostilities in the very camp of the adversary! Leaving the Straits, we directed our course for Poverty Bay on the east coast, where we arrived on the 15th instant, after encountering very heavy weather. Poverty is a wide, open bay, and exposed to winds from south-by-east to east.

The best anchorage is off the high chalky cliffs round Young-Nick's-Head, and abreast of a small river, in nine fathoms, two-and-a-half miles off shore. There are three rivers which empty themselves



into this bay; but the land in the vicinity of the sea is so low as to render them indistinguishable at any distance off. About four or five miles up the southernmost river, the Pá's are situated, one of which is deservedly worth notice. It is above a mile in length, and formed of immense spars, erected at about one-and-a-half by two feet apart, the intermediate space being filled by palisadoes of má-un-kà (a remarkably tough wood) of equal length, which, when viewed at a distance, has the appearance of a high brick wall; behind this outer work is an inner fence, similarly constructed, but of less height, which forms a passage or communication from one part to another. The whole is flanked by a ditch, having a high embankment of clay thrown up behind it, to prevent the balls from entering the houses, &c. At the distance of every three hundred yards there are regular sally ports, in the form of square towers, projecting from the regular line of fence; these have all strong doors, and are ball-proof. The river, along which one side of the Pá extends, is fresh here, and there is sufficient space within the walls to grow food for a long siege.

The only fault to be found with this fortification is its size, which, from the amazing extent of ground it covers, would require from two to three thousand men to protect it. There is a smaller Pá, on the opposite bank. Poverty is certainly a misnomer for this part of the country, which is more picturesque, and certainly as fruitful as any neighbouring bay. The plain in which the Pá stands is of immense extent, well watered, and perfectly level; the soil is rich, and that portion at present in cultivation, abundantly productive. Had we but protection from Government, what an admirable field is here open for the agriculturist, what advantages would be possessed over the arid soil of New South Wales! During our stay here, we had occasion to move the vessel to the opposite side of the bay, when unfortunately a gale sprung up so suddenly at S. E. we were necessitated to hold on, and, to add to the danger of our situation, it was but a short distance off the dangerous sand-bank (laid down by Cook) which extends round two-thirds of the bay, besides a tremendous swell setting in, occasioned the vessel's riding a very heavy strain. Fortunately, we rode out the breeze without any disaster. I say *fortunately*, for, on examining the cables, it was found that the natives had knocked the pin out of the inboard shackles; so that, had it been required to give her the whole chain, the circumstance might have been overlooked in the dark, and the consequence must have been the loss of both ship and crew. There being no absolute head chief in this bay, the natives are under very little control, and, as in most republics, each faction is jealous of and opposed to the other; consequently there is little or no redress to be had in case of theft, at which they are most expert, as our losses in the culinary department and ship's rigging can abundantly testify. I must, however, make two excep-



tions, in the persons of a young chief, named 'Piá-ti-rang,' and his brother-in-law, 'Turangi,' (Mr. Harris's chief,) who are both quiet men, well disposed towards the Europeans, and will exercise their authority when called upon. Messrs. Montefiore & Co. have two establishments in this bay, under the superintendence of Mr. Harris, a young gentleman, of whose good offices and friendly deportment I shall ever retain a lively sense. From Poverty bay we were ordered to 'Te Mähia,' a settlement about thirty-five miles to the southward; and although so short a distance, from exceeding heavy weather, we were upwards of a week in accomplishing it. 'Te Mähia' is an open roadstead, with little or no shelter, and so should be avoided, as well as on account of the natives, who are the worst we met with. Previous to our arrival, the schooner Byron had been lost here, from which circumstance the natives appeared to have imbibed a most determined spirit for a similar plunder.

Our anchor was no sooner down, than the decks were crowded, the most incoherent din imaginable commenced, and the work of petty plunder went on cheerily. Te Warà, the head chief, and his wife, visited us early next morning, and, after begging and laying their hands upon everything that caught their eyes in the cabin, they returned on shore well laden, and in a most soothing state of insensibility, the effect of grog—I beg their majesties' pardon, I should have recollected their exalted rank, and attributed it to the vessel's uneasy motion. A fresh breeze set in towards night, accompanied with heavy rain, which warned us to prepare for another blow. To beat out was impracticable; we were consequently obliged to hang on, (the Agent being on shore;) and with the morning, we had the mortification to see the gale set in in good earnest. The ship rode very heavily, and plunged so violently, we were necessitated to throw a quantity of cargo (which had been received over-night too late to stow under hatches) overboard, to ease her; expecting every moment she would part her cables, and drive ashore.

Providence however favoured us once more; but you will hardly credit, gentlemen, that on again examining the cables, there were *two shackle-pins* knocked out! This of course led to serious inquiry, the result of which proved that a *Nabooe, or Bay-of-Islander*, who on our first arrival at Poverty Bay, had walked round from Te Mähia, to see the vessel, *had not only knocked out the former pin*, but, failing in his object, had, on our leaving for Te Mähia, returned overland, and, on our coming to anchor there, set to work with increased determination! I have not the least hesitation in saying, this scheme was premeditated; as it appeared on the morning of our departure, that our Agent and one of his trading masters had overheard a conversation on shore the night previous, in which the natives openly avowed their intention to



have taken the vessel on the very morning that the gale so providentially prevented them! I can only reconcile this mischievous propensity on the part of these natives, to a determination to profit by every similar opportunity that may in future present itself, seeing that all the Europeans have left their settlement, and that there is no chance of any person residing with them hereafter; or it may be from jealousy of the neighbouring tribes, with whom all the white people reside, and who consequently derive the exclusive benefit of their trade.

The old chief, TeWará, has evidently great authority, but his love of plunder entirely overcomes the desire to exercise it; and I look upon him as an old rogue, whose scruples of conscience (if he has any) are entirely subservient to the great object, aggrandisement—a fact, which was pretty well substantiated in the plunder of the schooner Byron. His eldest son, I learned, had been residing some time with the missionaries, in the Bay of Islands, and had become a great devotee; and to the repeated entreaties of his friends to return home, had invariably turned a deaf ear. His *conversion* appears, indeed, to have alienated him from “his own” entirely, having been regularly married by some of the new people, although he had twice previously entered into that holy state according to the customs of his country! His *ci-divant* tribes (poor things) are inconsolable! I have dwelt upon this part of my subject rather fully, for the information of those whom chance may lead here in future, in order that they may be upon their guard; and should they require water, either here, or at Poverty or Tologa bays, if an officer cannot be spared from the vessel to see it filled, be sure that it is tasted before hoisting in; as the natives about this part of the coast, either from idleness or mischief, will give you *brackish*, and, in some instances, *salt* water! On our way to Tologa, we called again at Poverty Bay, and landed some flax which had been damaged, and then proceeded on our voyage. You will admit, Gentlemen, that we had hitherto been upon a sea of troubles; but, unfortunately, I must date the commencement of a new and more awful series of misfortunes from this departure.

We cleared Poverty Bay on Sunday, 8th June, at 2 P.M. and stood to the N.N.E.; at seven the same evening, the courses well hauled up; at eight, from the increasing breeze, the courses and jib were furled, and the topsails close-reefed; and the wind being at West, the head-yards were laid a-box—the ship’s-head at N.N.W. At ten o’clock, the wind shifted suddenly to North, when it came on to blow very hard, with hazy weather; at 2 A.M., next morning, wore ship to W.N.W., the breeze increasing; and, at four, the vessel struck on a sunken reef or bank, not laid down on the chart, on which she hung four or five seconds, and, before I could get on deck, she again struck heavily abaft; by filling the head-yards, and putting her before the wind, she got off; but the darkness of



the night, and a heavy squall coming over, immediately on her getting clear, prevented my ascertaining the exact position of this danger, which (as near as I can judge) lies about eighteen miles off shore, N.N.W. by compass, in the latitude of *Gable* (miscalled Cable) End Foreland. From this till the 16th, we had one continued series of heavy gales, with a tremendous sea running at times so heavy as to oblige us to scud, it being no longer prudent to lie-to. On Tuesday the 17th, at 2 P.M., we again saw the land, but, from the continued bad weather, were obliged to lie-to at night, under a close-reefed topsail. From this till the 21st, we had to experience, if possible, still heavier weather. On the 19th instant, in wearing the ship, a sea struck her, which stove in the bulwark and filled the decks. At midnight, on the 21st, we had better weather, which continued until 2 P.M. on the 23d, although the sea ran very high. But this change was of short duration, for at 7 P.M. we were again laid-to; and at midnight, the whole breeze returned with redoubled fury, accompanied with rain and thick weather, and continued so till day-light, attended with heavy squalls. At 7 A. M. next morning, parted the starboard main-topsail-sheet, which obliged us to keep off to South, the ship going at a great rate, and a tremendous sea following. At 7. 30., what was our astonishment to discover through the haze, which (as if to acquaint us with our perilous situation) cleared off at this moment, the high-peaked hills off "Wari-ki-ika" (a bay in the bight to the northward of the East Cape) ahead' and other land on the weather bow, at barely two miles' distance—the wind, at the time, blowing a complete drift, dead on shore; and the sea, which ran mountains high, making a clean breach over us!

I will not attempt a description of our situation at this awful moment, merely observing, that by crowding all sail, at the risk of both masts, sails, and rigging, we were providentially enabled to draw out of this dangerous bight, and, by eleven o'clock, to weather the islet off the East Cape, at two miles' distance. Thus, partly from having no observation for some days previous, but more particularly from a want of the currents being noted, we were nearly lost a second time. We were no sooner out of difficulty than the gale abated; and at 2 P. M., on the 25th, we came to anchor in Tologa Bay, in a miserable plight, from the effects of the long-continued and violent weather. There is a very dangerous reef (part under water) off the north entrance of this bay, which extends twelve miles N. N. E., and as it is noticed on the chart, masters of vessels will do well to keep the other shore aboard. I had not an opportunity of going on shore here, but to all appearance the country is similar to that about Poverty Bay. There is but one river, but good water may readily be procured in a nook called 'Oboétamo' at the south entrance, where there is a well, held sacred by the natives to this day, as being dug by Capt. Cook! Both on



account of the anchorage and natives, I should decidedly give this bay the preference over Poverty. You have better shelter and holding ground, (the only winds that can hurt you are N. E. by N. and E.) and the natives are much more civil, and under better command, than I have before observed on the east coast. Messrs. Montefiore & Co. have another establishment here, as has also Mr. M'Laren. The best anchorage is on the south side, under a white bluff, beneath which will be seen a cave, which should be brought to bear S. by E. in nine fathoms. Nothing material happened during our stay here; and having taken in our water, &c. we bid adieu to our friends on the evening of the 28th, and at daylight next morning got under way, on our return to Port Jackson.

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NOTES ON BISSAO,—*the principal of the Bijooa Islands, West Coast of Africa. By a Naval Officer.*

THE Fort of Bissao is situated in latitude  $11^{\circ} 52' 8''$  N., longitude  $15^{\circ} 52' 43'' 3'$  W. It is a square, with four bastions, mounting sixty-eight pieces of cannon, generally of large calibre.

The bastions are connected by a wall, which slopes considerably, and is about twenty feet in perpendicular height. The distance between, is one hundred and twenty paces. It has also a broad dry ditch. The iron guns are nearly all honeycombed, and the carriages falling to pieces, but there are some of brass in rather a better state.

The fort is built on a cliff, rising abruptly from the river; the Portuguese town immediately below, on the beach. It consists of a few tolerable houses, mixed with a number of wretched hovels. The garrison at present consists of four officers and one hundred and twenty men, natives of the Cape Verds.

There is a Papel town on the same hill as the fort, and the Portuguese have allowed them to build their houses close to the ditch.

There is a well just to the westward of the town, and from which six or seven tons of very valuable water may be obtained in a day; but it is generally surrounded by native women, who wash themselves and their clothes here. There is another watering place on Isle Sorciere, where the water is very good, and you are not likely to be interrupted, but it is rather farther off.

Bullocks, pigs, and poultry may be procured, the former of one hundred or one hundred and fifty pounds, from twelve to fifteen shillings each. Yams are abundant; oranges may be procured, they are grown at Bulama. Wood may be obtained, but, though in the greatest abundance, it is dear.

The country about Bissao is clear, and the soil apparently excellent. Rice, at the beginning of the rainy season, is planted to the summit of the hills.



The population of the island is about 40,000; they are governed by one principal chief, who, together with the chiefs of villages, frequently pay the Portuguese governor a visit, for the purpose of extorting presents and getting drunk.

The Portuguese possess no land on Bissao Island, except the spot on which their fort is built, but they have a factory about forty miles up the river. They have another also on the island of Bulama, where they possess a great deal of land, and keep a number of slaves and a party of soldiers there, for the purpose of cultivating it. I am led to think, also, that a great number of slaves are sent from that island.

I am confident the slave-trade is still carried on here to a great extent. Three slavers were in the port at the time of my arrival, they had been detained here for some time, in consequence of our being in the channel. Three others had sailed just before our arrival in the channel.

The present governor, M. Guitano, is a young man who has been seventeen years on the coast; he was placed in his present situation by the governor of the Cape Verds, Martinez, whose agent he is. I am credibly informed that he exports annually from Bissao 2,000 slaves; these are sent principally in small vessels to the Cape Verds, where there are always larger vessels ready to receive them, whose occupation, when not slaving, is piracy. Guitano disposes annually of five hundred puncheons of rum, independent of powder, muskets, swords, cotton clothes, and tobacco. Now, it is well known that the blacks will not exchange their commodities for rum; it is not considered an article of barter, but is principally given to the chiefs in presents, for what purpose may easily be imagined. It must be recollected, that there are several other merchants besides the one in question, and some idea may be formed of the traffic which is carried on.

Our motions were jealously watched, and the governor endeavoured to dissuade me as much as possible from going into the river, by representing how unhealthy it was becoming, and how hostile and treacherous we should find the nations on its banks. This hostility, I am inclined to think, is encouraged by the Portuguese, as, on more than one occasion, on inquiring of the blacks, why they were afraid of us? they replied, because they thought we came to seize them for slaves! and, on asking who told them so, they said, the Portuguese.

Having spoken of the slaving which is carried on here, I think I may assert, from my knowledge of the localities, that one man of war, properly employed in the channel, would entirely put a stop to the trade.

At the time of our arrival here, April, 1834, there were eight vessels in the harbour! and fifteen arrived and sailed during the fortnight we remained in the river; four or five of these were



Americans, the same number English, the remainder Portuguese, two of which arrived from the Havana.

The market-place in Bissao generally presents a very animated scene. Here are to be seen the natives of several nations making their purchases, the articles of barter, being gunpowder and tobacco instead of money, for rice, poultry, vegetables, &c. &c. It is amusing to see the way in which powder is thrown about. I have seen women coolly smoking their pipes, and tossing a full pound of powder about, in an open calabash, whilst effecting their exchange. Great numbers of the Bijooga Islanders come here with hides and goat-skins; they may be known by their singular dress, which consists of an untanned goat-skin fastened round the loins, and hauled tight over the arms. They invariably carry a musket over the shoulder, which is usually cocked. They are an active but ill-looking race of fellows. The women frequently wear a sort of thatch, like the roof of a cottage, over the hips, arms, and ankles.

The Balantes and Biafians are also here in great numbers. They are very much alike in appearance, being fine athletic fellows, but very different in disposition; the Biafians being extremely peaceable, whilst the Balantes are the most warlike nation on the coast, but at the same time the least treacherous: there are several instances of these having seized canoes, which have grounded in the river, and in which there were Europeans, and having kept them till they were ransomed, not hurting them in the least; they are generally armed with a long sword, preferring that weapon to the musket. The governor persuaded them to exhibit a sham-fight for our amusement, in which a great deal of activity was displayed.

Their country extends for nearly forty miles along the left bank of the river, across to the Cacheo, separating the Papels and Mandingos, and for a considerable distance on the other side of the latter river.

The canoes both of the Bijooga Islanders and the Balantes are very superior to any other I have yet seen on this coast, particularly the former, some being large enough to contain forty men, and displaying a considerable deal of workmanship; the latter, though much smaller, are very neat and swift.

#### COMMUNICATING LONGITUDE AT SEA.

##### *To the Editor of the Nautical Magazine.*

22, Exchange Buildings, May 16th, 1835.

SIR,—Should you deem the following observations worthy of a place in your valuable Magazine, I shall feel obliged by their insertion.

The usual method of comparing longitude by chronometer at sea, by calculating it from the last noon, or assuming a latitude

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for a hurried observation, as ships approach each other, is liable to many errors; and it has frequently happened that a great difference apparently existed, when subsequent experience proved that the chronometers perfectly coincided at the time.

I would propose, whenever circumstances will admit of it, (and it is rarely that it could not be done,) that ships should always signalize their *Greenwich time*, instead of their longitude, which can be managed in the simplest manner.

Let there be inserted among the general signals these additional ones: "What is your Greenwich time?" and "My Greenwich time is," with this explanatory note, "The ship answering or making the signal will hoist at the mizen, or wherever it may be best seen, the ensign made up in a ball, and, in a minute after, will dip it; the moment of dipping being rated by the chronometers on board the different ships." The signal for Greenwich time will immediately follow, (omitting the *hours*,) and the dipping of the ensign can be repeated, if any doubt exist.

It is evident that this method will obviate the necessity of any calculation, and be quite free from the errors often attending it.

To prove the advantage which must often result from this plan, it may be as well to mention a case of frequent occurrence, similar to many I have myself witnessed within the last few years. Let us suppose a homeward-bound vessel should meet a ship which had left England a week previously, and, having been thick weather, the outward-bound had had no observation for latitude for some days. It is clear that this ship could afford the other little or no service by giving her longitude by chronometer, as a wrong assumed latitude, in calculating for time, might cause an error of more than a degree, while, on the other hand, by giving the Greenwich time, the homeward-bound vessel would in all probability be put within a *mile* of the truth.

The idea has been naturally suggested by the admirable plan recently adopted at Greenwich and Portsmouth, of dropping a ball at a given moment; and when the great importance of the subject is considered, it is to be regretted that *every* considerable port and rendezvous for shipping does not offer equal facility for regulating chronometers. The places mentioned above are, I believe, the only ones where the ball is now dropped; but how trifling would be the expense, to establish the same system at Deal, Plymouth, Falmouth, &c., where (as in the winter before last) hundreds of vessels are sometimes detained for many weeks, in momentary expectation of sailing. A good clock would alone be required for the purpose; and, in these "piping times of peace," how many of my half-pay brother officers would be happy to undertake its superintendence for a small remuneration!

There is no place where so much attention is paid to the regulation of chronometers as St. Helena. The East India



Company, with a liberality ever apparent for the public good, has long established there an astronomer and small observatory; and the considerate kindness shewn to shipping in not only dropping a ball at *two* stated times every day, but in *repeating*, whenever vessels (by an appointed signal) desire it, cannot fail of being most gratefully appreciated by all commanders, and others connected with East India shipping.

I am, Sir,  
Your obedient humble servant,  
JAMES LIDDELL, Lieut. R.N.

Commander of the East India ship Wellington.

P.S.—I mentioned above, that the ensign should be hoisted, because it is always at hand, but perhaps it would be advisable for all ships to be provided with a black canvass ball for the purpose.

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#### SYMINGTON'S PADDLE-WHEEL.

*To the Editor of the Nautical Magazine.*

SIR,—Having been permitted to examine the steam paddle-wheels patented by Messrs. W. and A. Symington, I beg to forward to you a few remarks on an invention which promises to be of much utility. There appears to be two objects especially (besides minor advantages) contemplated in the construction of the above wheel; namely, the obviating the vibration and loss of power incurred by the angle at which the paddle boards of the common wheel enter and leave the water; and its peculiar adaptation to vessels intended for sea voyages. But previously to entering upon any detail of the merits of this invention, it will be necessary to notice a statement on the subject which appeared in the Nautical Magazine for May, by a writer under the signature Hiram. He there states, page 291, "Symington's wheel I did not see complete, and therefore cannot speak so confidently of it as of the others, *but I have had a report of it* from a scientific person, very capable both from experience and situation to do so. In his case an excellent opportunity was offered, (that of the Alban,) the only one I know, of judging of the merits and demerits of the invention, by only *one* wheel being fitted, (the starboard,) the larboard being the original common wheel." I cannot understand, Mr. Editor, how the relative *merits or demerits* of this invention could be ascertained, even by a *scientific person*, by fitting a vessel in the manner above stated. Does Hiram suppose that the *comparatively* trifling difference of effect of the respective wheels would be indicated by the helm? If he does, he is very much mistaken; the wheels working parallel to the keel of the vessel (very different from the action of an oar,)



have no tendency, or a very trifling one, to sweep round the vessel's head; in proof of which I can state, (having commanded a steam-vessel some years since fitted with paddles,) that a shaft having but two spokes instead of an entire wheel, was found by repeated experiment to propel the vessel with as much velocity at least, with one paddle, as with both, an experiment easily tried, the paddle shafts being separated, and the tendency to "pay off" when the vessel had once acquired way was so trifling, that she used to carry the helm almost "a midships." "The principle of the wheel," continues Hiram, "was inferior." (Indeed!) You, Sir, must be perfectly aware that sudden changes of position or collision in heavy machinery will never answer; and this change (in the paddles of Symington's wheel) "was produced by a *curve or projection striking on a fixed point*, and altering the position of the paddles." Sir, this description is totally inapplicable to Symington's wheel; there is no such thing as a *sudden* change of position, nor collision of any kind, nor a fixed point in the whole contrivance. Forgetting his previous criticism was founded on a *report* only, Hiram continues, "I can positively state, that the shake and tremor throughout the vessel and engines was truly alarming. The opposite wheel, on the good old plan, worked well." I would be very glad to be informed in what manner Hiram, or the "*scientific person*" on whose report he appears so implicitly to depend, could possibly distinguish whether it was the good old plan or the new one that caused the "shake and tremor" which was "so truly alarming."

Really, Mr. Editor, it is too bad that an invention evincing so much ingenuity and talent should be assailed in a manner so unwarrantable, and attempts made to put it down by a criticism equally uncandid and unjust.

The beautiful simplicity of this invention, and the excellency of its mechanical arrangements, leave no doubt on my mind of its fully answering the principal purpose for which it has been devised,—that of getting clear of the "back water" of the common paddle-wheel, and the injurious vibration its action produces in the vessel and machinery, rendering this mode of propulsion peculiarly adapted to river and canal navigation.

With respect to the applicability of Symington's wheel to sea-going steam-vessels, there can be no doubt of its being infinitely preferable to any other yet devised,—from its reduced breadth, and the small surface presented to the water, in consequence of the paddles being turned on their edge when the engine has ceased to work. Still I am of opinion that the side of a vessel navigated by sails ought to be perfectly free, not only from the effect of any thing towing in the water, but from the wind draught occasioned by the lofty paddle-boxes. I am also apprehensive that the paddles of this wheel, being parallel to the side of the



vessel, would be very liable to injury from the blow of a sea. These hints are offered for the consideration of the proprietors, with every wish for the success of their projects. The invention, in my opinion, is constructed on sound mechanical principles : whether the details and subordinate parts are arranged in the best and most convenient manner, experiment alone can determine. In conclusion, Sir, I beg to state, I am totally unacquainted with the Messrs. Symington, nor am I by any means interested in the success of this invention. But I am of opinion, every well-wisher to the advancement of science in general ought, as far as in him lies, to oppose every attempt to put down by misrepresentation any invention or other production of skill and ingenuity.

I am, Sir, your very obedient servant,  
 London, 20th June, 1835. ROBERT WALL, Lieut. R. N.

## SEA BISCUIT.

95, Union-street, Stonehouse.  
 19th March, 1835.

SIR—As your useful labours are directed towards the benefit of seamen generally, all are equally bound to assist and gratefully acknowledge such services. And myself, as one of the number, purpose doing so at all opportunities ; and for which, I would continue in the path I set out in, by offering nothing that should impeach the veracity of a book so valuable : therefore it is not on my own judgment I rely implicitly, but beg opinions of those who, I am certain, are not over-indulgent towards those plans that have originated solely with myself, arising from having had to deal with the practical not theoretical part of which they treat ; and although the formidable name of talent, alias monopoly, is not annexed to them, or ever should be to any thing whereby we can assist each other, it is a duty we owe ; and therefore I beg to offer by your means to the notice of the British mariner what must ever be of the utmost importance to him, viz. the preservation of bread, under all the circumstances to which it is liable to damage and loss. So many are they, that the 4th is allowed to cover them, and that where every convenience and attention is paid as is the case in the royal navy.

The plan I propose may seem startling, being nothing less than making biscuits six inches square by one and a half inch thick, each one to weigh a pound, these are to be stowed in iron cases of 3 feet and an inch long by 19 inches broad and deep, and one-sixteenth of an inch thick ; such a case will weigh from 40 to 50 pounds, and contain 214 biscuits in space less than in the bag of 112 pounds, for of what consequence is the shape or sizes of biscuit, seeing it is not swallowed whole, but the wholesomeness is to the eater, and the preservation to the buyer, as the following statement will prove. I have selected a ship of the royal navy, where the utmost attention



is paid to all stores; and if such gains as figures plainly show can be effected, how much more will it be to the mercantile navy, not having such conveniences!

To enumerate the advantages of such a stowage is unnecessary; but for troop-ships and those vessels that are obliged frequently to take some between decks, it is doubly advantageous.

In cases, say a first-rate, 900 men for 3 years.  
Three years' biscuit, 985500 lbs.  
at 2½d. per lb. is

£10265 12 6

To cover losses, one-eighth  
1466 bags, at 1s. 6d. per bag

1283 4 0  
109 19 9

Charge on the 3 years' supply,  
allowing the bags to remain  
serviceable so long

£1393 3 9

£1393 3 9  
828 0 0

£565 3 9 { Is the difference in favour of  
cases in the first 3 years.

In bags, say a first-rate, 900 men for 3 years.  
Three years' biscuit, 985500 lbs.  
at 2½d. per lb. is

£10265 12 6

760 iron cases at 21s. each  
Paint for 3 years

798 0 0  
30 0 0

Charge on 3 years' supply, and  
not occurring again as long as  
iron will last

£828 0 0

£1393 3 9  
30 0 0 for paint.

£1363 3 9 { In the three following years,  
the cases being paid for.

Did I not consider it proper you should be acquainted with all and every thing connected with what you publish, I would not trouble with what you would hardly believe credible; but such is the force of prejudice, *that stumbling-block to all improvement*, that, on my inquiring of some of the biscuit-bakers in this country of the practicability of making them of the above-named size, I was told it could not be done; and not until I produced proof, by shewing them one more than a year baked, would they be convinced. I own my vanity was hurt to hear Englishmen pronounce so positively what would be thought nonsense at Malta, where these were baked. One of them I gave to Admiral Sir William Hargood, a pretty good judge, I ween, of sea-cakes; he was delighted with it; and the arrangement for stowage is of so much advantage as the other part, for many ways that are equally good and suitable, since the storehouse on shore is totally inapplicable to a ship, and is the cause of many failures; but the size and weight I have adopted are alike convenient to the trading sloop or ship of war, capable of management at the lower deck ports, in boats, or any other way required; and in the distressing event of shipwreck, a probable chance of sustenance through the cases being water-tight.

I beg you will accept my thanks for past favours, and believe me to remain,

Your obliged servant,

JAMES PEARCE, Master, R. N.

[We consider the foregoing well worthy of attention, and very creditable to Mr. Pearce, who evidently shews that he has the economy, as well as the efficiency, of the Navy at heart. We believe the experiment of adopting iron tanks for stowing bread (a plan which, by the way, we consider excellent) is now in course of trial; but it is evident that much space would be gained by making the biscuits square instead of round.—ED.]



*To the Editor of the Nautical Magazine.*

MY DEAR SIR,—In the number of the Nautical Magazine, for April last, there is a notice of a series of Charts, now in the course of publication by the Lords Commissioners of the Admiralty, for the navigation of the Bay of Bengal; wherein it is said, that no Chart of the Bay has been published hitherto, excepting those on a small scale, in the form of a general Chart, insufficient for purposes of safe navigation. I have not the magazine before me at present, but the notice is certainly very ambiguous, and might lead casual readers to believe that none of the localities comprising the Bay of Bengal have been yet published, except on a small scale not adapted for the wants of navigators.

I trust you will permit me to rectify the mistake, (which, no doubt, has escaped your observation, and inadvertently found a place in the magazine,) by furnishing you with an abstract of surveys of different parts of the coasts of the Bay of Bengal, made by Captain D. Ross, the Company's marine surveyor, and other officers of the Indian navy, which have been engraved on the original large scales, and published at the expense of the East India Company, for the benefit of navigation.

The series of charts now publishing at the Admiralty are on a scale of six inches to a degree; and they are constructed chiefly from the above-mentioned surveys. Now, the whole of the coasts of Arracan, Ava, Mergui, and Tanasserim, and the contiguous archipelago of islands from Chittagong to Turkiseylon, have been engraved in nine large sheets, on scales of fifteen inches the least, to thirty inches to a degree. Exclusive of these, eight surveys of rivers and harbours have been engraved on large scales, of the eastern side of the Bay of Bengal, also the sand-heads at the entrance of Hoogly River, and Palmiras Reef, on four large sheets, the shoals of Pulicat and Armegon, and Mootapilly, all on a large scale.

I am, dear Sir, your's, sincerely,

JAMES HORSBURGH.

[We should deeply regret to find that we had either misled our readers, or underrated the value of Captain Horsburgh's Charts of any part of the Bay of Bengal, by any ambiguous statement of ours. Far from insinuating any thing to their disparagement, we there and every where have alluded to him and to his works in terms of grateful praise, which our readers well know that he and they have amply earned. We meant to assert, merely, that no chart of the whole bay had yet been published on a sufficient scale for the purposes of general navigation; not that no plans of ports, nor particular charts of the coast, had been surveyed and engraved: indeed, to have done so, would have been only ridiculous, as the very charts themselves, which we were announcing to the public, fully explain in their titles from what authorities they were constructed; and the major part of those authorities were the excellent surveys of Captain D. Ross, and of other officers of the Indian navy, as guided by the skill and experience of Captain Horsburgh, under the wise, liberal, and enlightened commands of the East India Directors.]



TABLE XVII.

*For reducing Russian Archines to English feet, and English feet to Russian archines.*

1 Russian archine = 2·334294732 English foot.

1 English foot = 0·428394918 Russian archine.

Archines or Feet.	English Feet and Dec. parts.	Archines and Dec. parts.	Archines or Feet.	English Feet and Dec. parts.	Archines and Dec. parts.	Archines or Feet.	English Feet and Dec. parts.	Archines and Dec. parts.
1	2·334	0·428	38	88·703	16·279	75	175·072	32·130
2	4·669	0·857	39	91·037	16·707	76	177·406	32·558
3	7·003	1·285	40	93·372	17·136	77	179·741	32·986
4	9·337	1·714	41	95·706	17·564	78	182·075	33·415
5	11·671	2·142	42	98·040	17·993	79	184·409	33·843
6	14·006	2·570	43	100·375	18·421	80	186·744	34·272
7	16·340	2·999	44	102·709	18·849	81	189·078	34·700
8	18·674	3·427	45	105·043	19·278	82	191·412	35·128
9	21·009	3·856	46	107·378	19·706	83	193·746	35·557
10	23·343	4·284	47	109·712	20·135	84	196·081	35·985
11	25·677	4·712	48	112·046	20·563	85	198·415	36·414
12	28·012	5·141	49	114·380	20·991	86	200·749	36·842
13	30·346	5·569	50	116·715	21·420	87	203·084	37·270
14	32·680	5·998	51	119·049	21·848	88	205·418	37·699
15	35·014	6·426	52	121·383	22·277	89	207·752	38·127
16	37·349	6·854	53	123·718	22·705	90	210·087	38·556
17	39·683	7·283	54	126·052	23·133	91	212·421	38·984
18	42·017	7·711	55	128·386	23·562	92	214·755	39·412
19	44·352	8·140	56	130·720	23·990	93	217·089	39·841
20	46·686	8·568	57	133·055	24·419	94	219·424	40·269
21	49·020	8·996	58	135·389	24·847	95	221·758	40·698
22	51·354	9·425	59	137·723	25·275	96	224·092	41·126
23	53·689	9·853	60	140·058	25·704	97	226·427	41·554
24	56·023	10·281	61	142·392	26·132	98	228·761	41·983
25	58·357	10·710	62	144·726	26·560	99	231·095	42·411
26	60·692	11·138	63	147·061	26·989	100	233·429	42·839
27	63·026	11·567	64	149·395	27·417	200	466·859	85·679
28	65·360	11·995	65	151·729	27·846	300	700·288	128·518
29	67·695	12·423	66	154·063	28·274	400	933·718	171·358
30	70·029	12·852	67	156·398	28·702	500	1167·147	214·197
31	72·363	13·280	68	158·732	29·131	600	1400·577	257·037
32	74·697	13·709	69	161·066	29·559	700	1634·006	299·876
33	77·032	14·137	70	163·401	29·988	800	1867·436	342·716
34	79·366	14·565	71	165·735	30·416	900	2100·865	385·555
35	81·700	14·994	72	168·069	30·844	1000	2334·295	428·395
36	84·035	15·422	73	170·404	31·273	2000	4668·589	856·790
37	86·369	15·851	74	172·738	31·701	3000	7002·884	1285·185



## MARINE INSURANCE.

*To the Editor of the Nautical Magazine.*

Kirkcaldy, 28th March, 1835.

SIR,—Considering myself to be in a situation, as if on trial, to prove that three-fourths of the shipwrecks which took place in 1833 were owing to the *abuse* of sea insurance, and that three-fourths of those which are still taking place are attributable to the same cause; I will be obliged by your publishing, at convenience, the following observations and extracts. The following quotation from the *Mechanic's Magazine*, of Saturday April the 20th, 1833,—an authority which I presume even *Vindex* will not dispute,—I conceive to be directly in point. “A noble East Indiaman and some other vessels *were shivered to splinters* upon the rocky coast near Fishguard and Ramsey Sound: every soul perished!” And it adds, “But who can wonder that they should be shivered to splinters, when probably not one of them had a casing of more than three inches thick, and some only one inch and a half; while a man-of-war has a solid bottom of fifteen inches thick? Is it stupidity, economy, villany, or what, that causes this wanton exposure of life and property?” Perhaps *Vindex* will answer the question. If he will refer to the *Times* of 15th March, 1833, he will find a letter of mine to the Editor, on the loss of the *Erin* steamer, that beautiful model which he so much admired. A writer in *Chambers' Edinburgh Journal* of the 21st of March, says, “A large portion of the mercantile navy of Great Britain, from the infamous system of registration and underwriting, is unfit to encounter heavy seas and stormy weather, especially the dangers of the gulf of Saint Lawrence.” I regret to have had to make such frequent quotations, but if I advance my own opinion, unsupported by others, *Vindex* meets it with a direct negative, and alleges it is not fact. And now, Mr. Editor, having, I trust, shewn proofs enough to convince and satisfy all disinterested and impartial persons, that three-fourths of the shipwrecks which took place in 1833 were owing to the *abuse* of sea insurance, and that three-fourths of those which are still taking place are owing to the same cause—my first position, and which unfortunately gave offence to *Vindex*—I venture to suggest, but with great diffidence, what I consider the practical remedy for the evil. I hold it to be a principle, that self-interest will be found to be the best safeguard for the protection of all property whatever. Then, let us suppose some board, the members of which having of course no interest in the matter, could be formed, to put a fair and just value on all mercantile vessels,—and this valuation to be published where all interested, or about to be interested, could easily and readily



get access to it,—and that the owner of the vessel should in no case whatever be allowed to insure to above three-fourths of this value. This would only be causing him to run a fair proportion of the risk; and, when it is considered that the lives of others are at stake, certainly does not appear to me to be too great; instead of allowing him, as at present, to insure, if he is so inclined, to double and treble the *marketable* value, without any questions being asked;—what would be the effect? Would not the shipowner, supposing him either to insure or not, be anxious, on account of the fourth part of the risk which he was obliged to bear, take care that his vessel was built on the best construction for safety; that he put a sober and properly qualified master, officers, and crew into her; and as he must have an interest in her being preserved, instead of an interest, as is too frequently the case at present, in her being lost, that he would take care that she was always kept in good repair, and well provided with all stores and necessaries, on which, in many cases, the safety of the vessel, crew, and cargo depends; and for which increased expense, he would get ample returns, in the increased credit and valuation of his vessel, and in the preference of employment which this credit and condition would insure to her? This would not interfere, either, with trade in any way, while the good effects of it would soon be felt, in the increased safety it would give to lives, vessels, and merchandise afloat, and enable the inhabitants of Britain, by importing the raw material, to export the manufactured article, at a cheaper rate, and consequently the power of supplying foreign markets at less cost would be followed by an increase of the whole commerce of the kingdom. All this is, as near as possible, the very reverse of the system at present pursued. By the bye, can Vindex inform me, if the *abuse* of sea insurance be not the cause, what is the cause, that, notwithstanding all our improvements in astronomy, chronometers, nautical instruments, charts, knowledge of coasts, light-houses, beacons, buoys, appliances and means to boot of every description, for the improvement of navigation; the loss of merchant vessels by shipwreck is greater per cent now, than it was at the beginning of this century; and how the loss of vessels of war, which are not insured, and consequently not subject to the *abuse*, are less per cent of all vessels now employed, than it was in 1800? How does it happen, too, when vessels are cast away, and they and the property which they bore destroyed, unless it be that the loss is borne by the public, and of which, I am sorry to say, the public is ignorant, that neither the shipowner nor merchant cares a straw about the loss, and that no means whatever are used to inquire into the cause of loss, nor that the qualifications of masters of merchant vessels, who are entrusted with the charge of human life, and very often of property to a great



extent, are ever inquired into? A candidate must undergo one or more examinations, before he will be admitted a clergyman, a surgeon, or a lawyer. Allowing every importance to these professions, are they of more importance than the preservation of human life? If Vindex will answer these few plain questions, he will much oblige me, and I have no doubt will do a great service to the public. Returning you my thanks for the publicity you have given the subject,

I am, Mr. Editor, your most obedient servant,  
JAMES BALLINGALL.

## ADVENTURES ON SHORE AND AFLOAT.

## A DIGNITY BALL.

"Est il gai, est il amusant? Seigneur quel drole de creature!" exclaimed a capitaine de vaisseaux, pointing to Jack Williams. This merry and kind-hearted fellow was attempting, by his buffoon antics, to amuse a sombre set of officers, who, since their capture, had been singularly taciturn and melancholy. I never in my life, said Jack, fell in with prisoners like ours. Those I have met, however glum at first, soon rais'd their drooping spirits, chatter'd like parrots, and grimaced like monkies; while these, though upwards of a week on board, are grave as owls, and sulky as hyænas.

Jack, with his drollery, naiveté, and gibberish, at length proved irresistible. Though he could not square the circle, he could make long faces, square, short, and round. When men are chop-fallen, you must make them laugh, Jack would say; and he was right, for he soon compelled these Frenchmen to laugh, and get their palavering tacks on board. He was one of those strange beings, which, in the days of Capt. Bobadil, were called Humourists. Your long-shore men called him an oddity, but he, on board ship, was esteemed a "regular queer fish." Those who knew him best were astonished at his gaiety: few had more reason to complain; his services had been long, and unrequited; he had met with grievous trials.

Show me a reefer, said Jack as he was once walking the quarter-deck with the chaplain, who has been more frequently adrift amidst the reefs of adversity than I? It was one foggy day, that in the Strand I got completely stranded. It must be owned, I kept a blind look out. What right had a fellow with three years' pay and prize-money in his pocket, to run stem on upon an election mob? especially after he had been watch'd counting a fist-full of notes under the gateway of Somerset House? You have yourself to blame, said the chaplain, for many of your misfortunes. I don't know any thing more culpable than misfortune; that is certain to get blamed, said Jack dryly. Men must be pre-



pared to meet with transitions, retorted the chaplain. Yes, Mr. Parson; from curate to rector, from rector to dean, and dean to bishop; but my transitions have been from bad to worse; from acting lieutenant to master's-mate, from mate to midshipman, from rated to disrated! shoaling the water thus at every cast of the lead. Yet, Jack, you hold your course on gallantly, said the master, who had joined them; you try to cleave the wind with that old *cut-water*. I tell you what, Master, replied Jack, I sometimes think that I must cut the water altogether. Pooh, pooh, you are not cut out for any thing in the land-lubber line—you know it; besides, Jack, you must have some expectation? Yes, I have an expectation, that when this ship's paid off I shall be sent adrift. Oh! that is by no means likely: no man, who has served so long as you have, can despair of ultimately getting a commission. Who do you depend on? What is your hope of promotion? I place dependence upon nobody, said Jack, looking full in the master's face; and my hope of promotion is out of sight astern! and, spinning round upon his heel, he made a dive into the cockpit, being too sore to listen to the worldly wisdom of the chaplain, whose spiritual consolation generally tended to show that men's misfortunes were all of their own making. He was the only person in the ship who did not sympathize with this old reefer, who, notwithstanding his hilarity, was in truth an object of compassion; he was the most poverty-struck of all the middies, had the worst kit, and could not pay his mess without incurring debts. As he never said a syllable about his kindred, nor ever wrote or received any letters, it was conjectured that he had neither friends nor relatives.

Jack was, in one respect, the most convenient messmate possible; he rarely went on shore except on duty, and frequently was kind enough to volunteer a tour of service, to let others take their pleasure. Yet, although thus amiable, he sometimes appeared nettled at the facility with which the youngsters managed to get leave of absence, and the frequent pretext they made of going to visit a relation.

One day, on entering the berth, he threw his hat down in a pettish manner, and told the servant of the mess to go immediately and call the carpenter. Old Chips, who was a bit of a nob, as the sailors have it, was loth to obey the summons; but at last, stalking up, said, in a very pompous manner, Pray, Mr. Williams, what may you want with me, sir, may I ax?—Axe, yes, to be sure: why, that's the very thing I want, man: get your broad axe, and go to work with it immediately.—To work *immediately!* Pray, what to do, sir?—To make me a whole lot of uncles.—Uncles!—Yes, sir, I want a set of uncles; make them of wood, good heart of oak, and let them be put out of hand as soon as possible.



Well, here's a pretty go! Sir, I don't understand what 'tis you're ater?—So I suppose, returned Jack; neither is it necessary that you should: only be kind enough to follow orders—that's the order of the day on board a man-of-war, I apprehend.

But, Mister Williams, give me leave to tell you, I don't apprehend what right you have to call me off from doing the captain's business, and I at work upon his swinging table? What right have you to send for me on this fool's *arrent*? I believe as how this in't the first of April, by my reckoning?—No, replied Jack, but there are fool-days all the year round, and plenty of fools for every day in the year.—Well, I'll just tell you what it is, said the carpenter; you're always at you're gammocks; but I wont stand no nonsense, blow me if I do; so, sir, if any more of these here riggs is run upon me, I shall complain of you to the leefftenant.—Poor Chips was only laughed at by the youngsters; for few things are more amusing than to see a pompous person in a passion.

Jack Williams, being called upon for an explanation of his joke about the wooden uncles, affected to look serious, and said he was in downright earnest, being in need of such commodities. Jack, are you crazy? said the captain's clerk. No, only politic. Wherein consists the policy of wooden uncles? I mean to station one at every port we anchor at; then I shall have a good excuse to go and see them; for I perceive, anchor where'er we may, every one has an uncle cut and dry on shore, and is continually asking leave to go and visit them. Going on shore to see my uncle, was a cant word after that; and when the reefers went for leave of absence, the lieutenants used to ask if they were going to see flesh-and-blood aunts, or wooden uncles.

Jack, though a thorough sailor, was, notwithstanding, rather out of his element on board a square-rigged vessel; he had not long been paid off from the Baracouta cutter; he had sailed in her wet and dry, to use his own words, many years. She was his favourite craft. He dwelt so much on her good properties, and quoted her so often, that he at last was christened Baracouta Jack; but we discovered, accidentally, that he was known by that name long before he joined our ship, owing perhaps to this very strong predilection for the vessel in which he had passed so many happy days, as he called them, although his messmates used to tell him they were half under water. Jack was a universal favourite; his memory was so well stored with cockpit jokes, that he might have furnished ample materials to make a sailor's jest-book: he was a great adept at spinning yarns, including stories galore of ghosts, the flying Dutchman, the Lapland witches, escapes from shipwreck, actions with smugglers, tales of Sallee rovers, sea-kings, pirates, cannibals, and Buccaneers; was a great mimic, and imitated to perfection



Frenchmen, Germans, Negroes, Creoles, and Americans. As he had been much in the West Indies, he had collected many anecdotes of the conceited braggadocio Barbadians, and the arrogance of the mulatto belles, who think that there is nothing comparable in style and quality to their assemblies. Some people call them Brown Dances, but Dignity Balls they deem a designation more appropriate.

The newcomers were extremely anxious to witness one of these grand exhibitions, which took place shortly after our arrival at Barbados. In one respect, unfortunately, it proved incomplete, because, owing to the great number of officers in the squadron, men of colour were excluded; and there were very few black girls present, except those who were in demand on account of their beauty. Nothing could be more amusing than the airs of consequence assumed by the mulattoes. Brown as they are, said Baracouta Jack, no *fairer* subjects for satire could any where be found, should Momus go himself in search of the ridiculous. No European petite maitresse can exact more homage in a ball-room, or requires to be more obsequiously entreated to dance, than these imperious Statiras.

It is said, that his present majesty, William the Fourth, when a midshipman, met with the following whimsical rebuff from a Barbadian dignity. Struck by her handsome person and genteel appearance, he accosted her, and said, I'll dance this set with you. Upon which she drew up quite offended, and, as she strutted off, said, "Kai, sir! do you suppose I neber danc'd with a duke of Clarence before? really, these little mishipmen take greater liberty than 'em commission'd officer."

We were surprised to find the good order that prevailed, and the stylish appearance of the women, the most conspicuous of whom were French, who had taken refuge in the British islands after the revolt at St. Domingo. The better sort of these greatly excelled our dignities in their deportment, were far less consequential and presuming, danced with consummate elegance, and spoke French with a purity approaching to Parisian, so that they must have enjoyed advantages superior to the same class in our colonies, who, by the way, are much improved by their society, having acquired from them a far superior mode of dancing, and a better style of dress. Sailors, accustomed at home to herd too much with women of abandoned character, when they first go abroad express extreme contempt for the reserve affected by mulattoes: but to confound them with the frail sisterhood of Europe, is unjust; they are by no means thus depraved and dissolute. People profess to feel much sympathy for those women who are doomed to seclusion in the harem of some Asiatic despot, and their state of slavery is truly pitiable; their lot is more deplorable than that of the mulattoes, but these are, notwithstanding,



also objects of compassion, for when their social position is considered, you may regard them as a doomed race. The stain of Afric's blood remains indelible, dilute it as you will; whether it gives a jet-black dye to the Mandingo's hide, or flows to nourish the almost bleached-white skin of the Mestiza. There may be modifications in the degrees of scorn and contumely shewn to these mixed races, regulated by the resemblance more or less borne by the luckless offspring to their poor despised progenitors; but when the man of colour comes into the world, his brow is branded with a twofold stigma. The illegitimate offspring of whites have one deep brand, and are amerced of privileges common to their fellow-creatures, yet are not utterly renounced by them: their condition is thought worthy of compassion by the most fastidious puritans of morality, nor would the most austere sectarians drive them beyond the pale of their society, unless they dared aspire to wed the daughters of legitimacy; then they would be renounced, nor would they ever gain admittance to the house again, unless they could go there across a *golden* bridge.

But, even could she build a bridge of diamonds, a mulatto woman, in the West Indies, scarcely could find a white man who would go across to church with her. It will be said, why is she not satisfied with marrying a man of her own complexion? The reason is, that she is ambitious of advancing: her education has fitted her for something nearer the condition of her European father than her Ethiopian mother: she is too haughty to consort with men of colour, and, when pressed to such a marriage, exclaims, like Eloisa, "No! make me mistress to the man I love." Now, be it known, this man is almost always white; and, though the liaison she forms with him may prove but temporary, it is by no means esteemed a degradation. Generally speaking, however, this first connexion is not an affair of the heart. The wily mother traffics the daughter's beauty, and often makes such terms as to insure a state of independence for the remnant of her days. During the time these bargains are negotiating, the young dignities assume the utmost consequence, are wayward, bashful, and coquettish, expect much flattery, and many handsome presents. Long after the first blush of shyness has given way, these flirts affect resentment of the smallest liberty, and answer the ardent solicitations of their admirers by insisting *to be courted a little longer.*" These belles are languid, indolent, extravagant in dress, susceptible to music, and their love of dancing amounts to a passion. Ludicrous instances of this must have been observed by all who have attended their assemblies. So alive are they to the business of the dance, that they are most indignant if they get a blundering or careless partner. One of these once tartly said to a dandy who made vast efforts to amuse her by his sprightly conversation, "Sir, I came here to dance, and not to chatter." A Samboese, who



danced that night with Baracouta Jack, amused us highly by her conduct to a girl in the same set, who was tying her shoe-string when she ought to have been allemanding. Seizing her by the arms, Miss Lucy dragged her up, and roared out, "Dance, you jade, why don't you mind your business!"

We were astonished to find that some of the girls, who were so well dressed and cut so great a figure, were but slaves: with one of these, almost the finest woman in the room, a scene took place that caused no small commotion. She was just leading off a dance all gaiety and animation, when her master came, and ordered her away. Her partner interfered, and many of the gentlemen present tried to make him forego his purpose, but he remained inflexible; the surly fellow dragged her out of the room, and drove her home before him. Some of the officers, who were not in the set, followed, to load him with reproaches, hoping thus to provoke him into an assault, in which case he would have soon been brought to condign punishment; but the sneaking fellow took no notice of the insults offered, and, forcing the girl into his house, had her shut up in an underground room with grated windows, there to be kept on bread and water like a criminal. We heard from this poor girl's companions, that the cause of such harsh treatement solely arose from pique. She had refused compliance with the tyrant's wishes, on a point in which a slave can lawfully prove disobedient to a master; not being authorized to use corporal punishment for this offence, he was obliged to stint himself to such a system of persecution as inflicted mental torture on his victim. But her now venturing to appear at this dance in defiance of his orders to the contrary, was a punishable misdemeanour, and, as such, might, if he chose, be made a flogging matter. We were shocked to hear this, also that it was probable our injudicious interference would only stimulate his vengeance, and cause the poor girl's imprisonment to be protracted until the sailing of the fleet.

After this unpleasant interruption of the ball, nothing further occurred to mar the pleasure of the dignities, who might be said to enjoy themselves with heart and soul, for it seldom fell to their lot to bring their charms to such a market, or to receive the devoirs of so many gallant and galant admirers. There were many amongst these women, whose personal attractions were remarkable, particularly two Mestizas; they had such fine dresses and fair complexions, that we supposed them Europeans. By an odd chance, white as they were, their names were Black; while Cloe White was blacker than the driven charcoal. There were some other instances of equally ridiculous misnomers: Miss Small being a wench of vast dimension, and Miss Long a squabby dumble-dough not above four feet high.

"How dare you offer me your *naked* hand? Kai, sir, you really rude, you neber read *Lord Chesterfill*; for true, sir, I expect young



*gentleman* that dance with me to put on white kid glove. You really genteel partner; some grocershop-boy, I suppose; neber inside a ball-room afore to-night." Now, this superlative fine lady, said Jack, is just as ignorant as she is vain, and piques herself especially upon her knowledge of the world, because she made a voyage to America last year, with a relation. By the way, a laughable occurrence took place on her passage back. One day, when the vessel had got to the warm latitudes, a stream was observed flowing into the cabin. The captain's servants being sent to find out the reason of this inundation, soon reported that the wet was issuing from Miss Kitty's black hair-trunk, in which they thought some bottles must have been broken in consequence of bad stowage. The young lady vowed she had not so much as even a smelling bottle in her trunk. As it became obvious, however, that the fluid came from thence, she was requested to unlock it, when, to her surprise, her clothes were found soaked through, especially a large silk handkerchief, which she found empty, though she had filled it, the morning she embarked, with something curious, which she meant as presents for her friends. After being further questioned, it appeared that, struck by the beauty of some icicles which she saw hanging down from the gable-end of an outhouse, she collected them as curiosities, having no more notion of congeled water than have the salamander-like inhabitants of Mercury or Sirius. I fancy Miss Kitty's reading had solely been confined to Lord Chesterfield's Letters and other manuals of politesse, and that she supposed crystals grew on house-tops in America, as plantains did on trees in the West Indies: however, wishing, as she does, to pass for a fine lady, her ignorance is not so pardonable as that of the East India girl, who, being brought to England in the winter, ran in, one day, to tell her mistress it was raining cotton; but she soon found the difference when sent to bring a bason full, for when her fingers were benumbed from handling the snow, she cried most piteously, saying she wished herself safe home again, for *whity* weather was no good for *blacky* people. When humility is coupled with simplicity, it imparts some interest to the female character; but where it is the concomitant of vanity, conceit, and arrogance as in Miss Kitty's case, it is contemptible. Do watch her manœuvres: "'tis really amusing to see the airs she gives herself; see, now she sails along, spreading her gown out! she may be well compared to a peacock.—I don't think it adds much to her grace, to put her arms a-kimbo. Oh, that's to indicate disdain! don't you perceive, she has been giving a rebuff to that old master's mate for presuming to address her, she thinks herself *fit company* for commodores and admirals, and will not deign to dance with any one beneath post-rank. See, she's accosted now by a storekeeper's clerk; how she turns round upon her heel, and curls her nose up as if some sudden stench assailed her nostrils! Yet,



this proud beauty, when she dances, exhales from her own person such a degree of mauvaise odeurs, that it is absolutely insupportable. She is not remarkable in this respect. The atmosphere created by the Creoles is a sad drawback on the enjoyment to be found at a dignity ball.—Drawback indeed! I thank you for the word: many a time have I been obliged to draw back, when, in turning a corner, I have unexpectedly got scent of a brown dance, which may be almost winded at a furlong's distance. Even here, to-night the room is scarcely bearable, although the dignities have taken more than usual pains to purify the air, by letting off pastiles and emptying their flacons; but this profuse expenditure of musk and eau de millefleur is quite bootless. Alas! the animal aroma far exceeds the vegetable fragrance. Yes, the brown odour penetrates through all, like the flavour of garlic in Italian sauces; ay, or as that fellow's shrill octave cuts its way through all the crashing of the fiddles and the hoarse growlings of that husky old bassoon.

You hab trrong nerve and tout heart, really, Miss Lucy, to go and see such sight. How could you bear to see you fellow-creature swinging on 'em gallows?—Why for de matter of dat, Miss Nancy, I really felt much concern'd for 'em poor wretch; but den I always like to go and see 'em execution. When I first saw one I was quite a pickaninny, so mammy lifted me upon her shoulders, and I saw 'em cleber! Dey say dat good for noting hussey, dat betray 'em poor man, went into de mob disguised to see him turn'd off wid her head wrapp'd up in a Bandana handkerchief. Cuss her, hard-hearted monster! hanging too good for her. I'd like to mash her cull wid *rock-tone*. By Golly, she don't care a fi-pence if ebry man in de island hab a rope about he neck, so long as she get doller in 'em pocket.—This conversation was interrupted unexpectedly, and that in an unpleasant manner, for a midshipman, who came up most politely with a gigantic glassful of sangaree in his two hands, to offer Miss Lucy a drink, treading on some orange peel, stumbled, and poured the whole contents of the jorum over her; it luckily was not hot, so she escaped without a scalding. But her exterior got a drenching which was destined to irrigate the thirsty throats of the whole party. As for the poor middy, curses were plentifully showered upon him for his clumsiness; though he got wet himself, broke the huge rummer, and was compelled to pay for that and the sangaree.

In going home we fell in with a black, named Peter, whose acquaintance we had formed two nights before. We had been walking on the sea-shore after bathing, and wandered so far, that ere we could reach the town, a storm so violent arose, we were obliged to run for shelter to a negro cabin. On knocking at the door, it was opened by an old black woman, who was officiating as nurse to an unfortunate slave, who had been obliged to have his



right leg amputated owing to an accident. When the rain abated, we moved on to a shaded out-house, where we saw a negro walking to and fro. Jack Williams soon engaged him in the following conversation:—We have had a devil of a shower, old boy. Yes, sir, we hab 'em bery hard—a regular sowser.—A sowser, sir; enough to wet a duck to the skin?—Yes, massa, or goose too; I don't tink any man or bird hab jacket tick enough to keep 'em wet out when he come down sowsing dat away, as if you pour 'em out in bucket full.—I fear the storm is only now beginning; it lightens very much to windward; hark, what a clap of thunder. Again; it nears us fast: I wish we were snug on board.—Massa, he fraid of lightning? but dis don't noting; suppose you here in hurricane-month, den you hear tunder louder dan if 'em admiral ship fire off de whole of him big gun togeder.—Ah, there's a volley, that makes blacky stuff his thumbs into his ears; what makes you hold your head that way, my fine fellow?—I fraid him plit in pieces, massa; dat last clap shake him brain till he tremble like jelly in 'em saucepan.—Brain! that's a good one; sure you don't pretend that you have such a thing?—No, massa, me dont pretend noting.—At all events, if you have any, I am thinking it is but short allowance; how much may you calculate that calabash of yours contains?—A bumper, massa; I-tink 'em cull so full dat dere don't room for any more.—Oh, oh, you have got that in your head, have you? I suppose you think yourself no small beer, master blacky?—I like em trong beer better; wish I had em good drink Cotch ale, massa.—Gad, you're a knowing one; that's well put in; but I don't *take*!—Neber mind dat, massa; suppose you don't take, dat don't hinder you to *give*.—A merry rogue, fore Gad; why, you're a sharpish kind of blade, and can give a home thrust, I've a notion, when occasion serves: pray, may I venture to inquire your name?—God-father call me Peter when he make em parson christen me last year.—What, did they make an Anabaptist of you, and pop you in the plunging bath?—No, massa, dey don't make me any Baptis; dey only sprinkle me upon em head and face with handful of cold water scoop'd up from big marble bason in em church.—They watered a fine plant, no doubt; for you are getting corpulent, you are beginning to take on.—I always take good ting whenever I can catch em.—So you are returning to the charge.—No, massa, I don't charge you any ting; suppose massa like to give em glass of grog, den dat is well and good.—Well, you deserve one for your ingenuity: here Peter, put this in your pipe, and smoke it.—No, massa, I rader put em in em tumbler, and drink em to em company good health.—Pray, Peter, may I ask if you are any trade?—No trade, massa. Once dey tink to make a *carpenman* of me, but I cut em tum so badly wid em chissel, I fraid to lose em. So I won't work wid edge tool any more.—Well, Peter, to what account are your fine talents



turned ; how do you now employ yourself ?—By Golly, I no need ; massa employ me constantly : so, neber fear, Peter by day and night get always quite enough to do.—What, work double tides ! your owner has no conscience : the least he could do, one would think, would be to let you sleep after a day's toil. Pray, what may be your nightly occupation ?—I watchman, sir.—Watchman ! and wherefore do you watch ?—To keep the *teefs* from taking em tings.—What things ?—O, em coffee, sugar, cocoa-nut, yams, Guinea corn, and ebry ting belongs to massa's pen.—But, master Peter, if the thief should happen to be stouter than you ?—Oh, no sir, no ! a teef can't be so tout as a watchman !—This naïf expression made us laugh immoderately : it was not to be presumed that Peter was familiar with the writings of Shakspeare, otherwise we might have suspected he had committed plagiarism on the thoughts, if not the words, of that fine passage, which says, "He is thrice arm'd with justice in his cause." One of our party vastly extolled the nobility of the black watchman's feelings. We regretted afterwards that we neglected to make Peter explain his meaning, so as to have been more competent to estimate his claims to all this magnanimity. Old Baracouta Jack, with his accustomed shrewdness, laughed at the idea of exalting Peter into such a hero, and said, the wily watchman only meant to hint, that nigger pickaroons would not be *tout* enough (that is, sufficiently daring) to attack a man, who was armed like him with pistols in his belt, a cutlass by his side, and a well-loaded musket on his shoulder.

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*To the Editor of the Nautical Magazine.*

H. M. S. Thunder,  
Nassau, 13th December. 1834.

SIR,—I am unwilling that your correspondent, "An Old Stager," should remain without an explanation of my reason for saying that he had fallen into an error, in supposing that the Chesterfield Rock, near the S.E. part of Long Island, is in the Bahamas.

On reading his first communication, wherein he states, that "The Chesterfield Rock, near the S.E. part of Long Island, eluded their (the Bahama wreckers) vigilance for more than a century," I was led to suppose that he must have referred to a rock of that name, off some Long Island in another part of the world, as there is not any rock near the S.E. part of the Long Island of the Bahama group.

I can assure the "Old Stager," that I am not one of those who consider the Bahamas not to reach within the tropic ; nor was I before aware that any persons entertained such an opinion.

I am, Sir, very truly yours,  
R. OWEN.



## A WORD OR TWO ON THE ST. ESPRIT REEF.

*To the Editor of the Nautical Magazine.*

I HAVE, Mr. Editor, read with a degree of interest the article heading your number for November, respecting the ineffectual research after the reported danger to the northward of Barbados. In the original account of the discovery of the St. Esprit, the length of the danger is stated to be 500 fathoms from north to south, or nearly half a nautical mile; and 100 fathoms, or about the tenth of a mile, in breadth, distant 35 leagues from Martinique; the rocks about eight feet under water, and plainly seen.

It is hardly possible to conceive that this account was a fabrication, as no earthly good to the party reporting could follow from it. As little, too, can we attribute its supposed existence to a *deceptio visus*, the extent alone would seem to be sufficient to deny such an assumption; nor to the mistaking a "school" of fishes for rocks.

The only species of fish, which might give rise to such a mistake is, I believe, the *lophius maximus*, or "sea devil," which is of great size, and said to be gregarious: at a little distance under water, in the vicinity of land, from its spotted coat, it may be mistaken for a rock: but in the instance above, the short depth from the surface "the rocks" were said to lie, would rather be an argument against the probability of the appearance being a "school" of lophiuses, because these are not surface fishes, and perhaps seldom if ever rise towards it, except in shallow water; confining themselves, like the flat tribes, to the bottom of the sea,\* and, indeed, even supposing the reported danger to have been a "school" of these fishes, that circumstance would be indicative of shoal water.

The surface fishes—such as the boneto, albacore, &c., which produce a rippling and foaming of the water like breakers, can only create momentary doubt; those seamen who have witnessed both the appearances, and exercise their common sense, can seldom or never be mistaken in their opinion—this must be obvious, for the plain and convincing reason, that rock-reefs have no locomotion, whilst the fishes which produce the mock-reef can only do so by their progressive action through the water. The rippling of a current, and the foaming produced by opposing sets, are not likely to deceive but in the vicinity of land: in the open ocean, except in calm weather, their effect upon the surface is blended in the agitation of the waters caused by the action of the wind. We may remark, *en passant*, that there are few sailors, perhaps, that

\* The compressed fishes which swim on edge, all inhabit near the surface, and they are rapid swimmers, and rather discursive in their motions; whereas those which swim on the flat of the body keep near the bottom, swim slowly, and do not range far.—*Brit. Cyclo.* p. 514.



have time and inclination to study ichthyology; but, from the wide range of their wanderings and practical observations, they become familiar with certain kinds of fishes, that are sufficiently abundant to be generally known; and the knowledge they gain of the habits and peculiarities of the finny tribes, becomes in some measure of service to them; thus:—Observation, proves that, like the medusæ of the ocean, fishes of particular species confine themselves, with little variation, to certain localities; one sort being found always near the shore, or on banks at no great depth; others only in the deep ocean, at a distance from land; whilst some are found indifferently in all spaces of the sea, confined only within certain climates. It is rare in these instances that any deviation takes place in the beautiful arrangement of nature; pretty accurate conclusions, therefore, may be drawn from data of this sort. Whilst running down the “trades” to the eastward of the West India Islands, where there is a shoal\* laid down in the chart, we caught a barracouta, well known to seamen as a bank and coast fish; which circumstance disposed my mind at once to entertain the extreme probability of the existence of the said vigia, or of some other in the vicinity, and this opinion was further strengthened by our catching, immediately after, a bank king-fish.

Another reason for discarding the idea of the “reef” in question being produced by lophiuses is, that their motion through the water is so easy, that they rather seem to slide than swim through the fluid, without creating any agitation. There was, it appears, a fresh breeze at the time of the discovery, and we may, therefore, infer that there must have been a little sea on, or, in other words, an undulation of the water occasioned by the wind, which would have had the effect of exposing, at intervals, the bodies of the fishes: such would not accord with the account, as the “rocks” are stated to have been *under* water, and no mention made of their being any where seen *above* the surface.

From the term “reef,” which has been applied to this danger in the first instance, we conclude that the water *broke* into foam, for although the sea at particular times may be in a quiescent state, and therefore not shew the position of a hidden danger by its action, yet this perhaps, excepting during calm weather, never occurs in the open ocean with so little depth as eight feet: indeed, from the description given, the reported danger would seem to be rather a *shoal* than a *reef*. We conclude also that the depth assigned to the water over the “rocks” was by hasty estimation only, in which case it may have been as much as seven or eight *fathoms*, instead of eight *feet*; for it is well known to seamen, that there is nothing more likely to be erroneous than the estimating, by eye-sight alone, the depth of water over a shoal, in

\* Martin's reef, 16° 42' N. 58° 45' W.



the clear transparent fluid of the intertropical seas : from experience during my novitiate, I have often fancied I could touch the bottom with my feet, where there has been actually two or three fathoms water.

In the account, I perceive that there is no mention of discoloured water.

It is, Mr. Editor, to be regretted, that navigators are generally so remiss in their observations respecting dangers they fall in with, either from sheer indifference and culpable neglect, or from "losing their wits" at the critical moment. I do not mean, sir, to make light of such rencontres, as I am sensible of the degree of alarm which must be felt, more or less, by all persons on board of a vessel that unexpectedly falls into danger, especially during the shade of night, when "darkness visible" naturally throws its sombre terrors over an object likely to harrow up the imagination. Nevertheless, it must be confessed, that sufficient care is not observed in these matters ; which is the more to be regretted, as a little attention, and a proper exercise of those abilities possessed by seamen, would save an infinite deal of trouble and anxiety :—but to return to the "reef."

Notices of other dangers in the vicinity of the St. Esprit, appear to have been recorded ; but these, like many others, serve but to perplex, because they are imperfect : it may be reasonable, notwithstanding, to infer that there has been some foundation for these reports ; and that all these appearances may have been created by submarine volcanic action. Let it be remembered, that almost the whole crescent of islands encompassing the Caribbean sea, if not owing their existence to the working of subterranean fire, have been, and in some instances are, unquestionably the theatres of ignivomous operations : this fact before us, no wonder need be created at the appearance, *for a time*, of marine dangers : the St. Esprit may have been uphove by the "subterranean spirit," as old Varenus hath it, and, like the recent display off Sicily, has gradually subsided ; which reasonable and highly probable circumstance may satisfactorily account for the discrepancies in the accounts. The Frenchman may have arrived at the period of early movement of the bottom upward ; Lord William Paget may have passed it at the time it was gradually sinking ; and, lastly, the several ships subsequently sent in quest of it, may have approached the site when it had sunk beneath the reach of their sounding lines.

In conclusion : It would have been satisfactory to have known *how often* the man of the North Star obtained soundings, and, by the run, the estimated extent of shoal water. If the seaman was an old hand "at a cast," it is not likely that he could have been deceived by a kink in the line, or by the lead touching the back of a fish or a turtle, especially if the ship's rate was moderate ;



and, if he carried seven fathoms onwards for a time, so as confirmation might be given by several casts, there could be no disputing it. The propriety of arming the hand-lead on occasions of this sort is here apparent, as no doubt of the fact could have been urged, if the arming corroborated by its marks the declaration of the leadsman.

I have the honour to be, Mr. Editor,  
VIGIA.

ON THE CLIMATE OF CAPE HORN. *By W. Webster, late Surgeon of H. M. S. Chanticleer.*

THE climate of Cape Horn, the same as that of Hermite Island, is one entirely peculiar to itself, and not generally understood. Persons naturally look to corresponding parallels of latitude in the northern hemisphere for similar effects in climate; but nothing can be more erroneous; and a consideration of the different portions of land and sea generally in parts of the two hemispheres under the same parallels, will at once account for the great difference which actually is found to exist. We remained nine weeks in St. Martin's Cove, and found the weather boisterous and extremely wet, the wind being almost constantly from the westward, veering from north to south by the west. The following statement is the result of the observations made during our stay, on board the Chanticleer and at the observatory on shore :

*Barometer.*

Mean height . . . . .	29.35	Temper. of the sea, 39° to 53°
Highest . . . . .	30.00	Ditto mean, 45°
Lowest . . . . .	28.30	Rain in 41 days, 12ft. 6in.
Mean daily range . . . .	00.30	Evaporation, 2ft. 6in.
Daily range sometimes . .	00.70	Wind veering from NNW. to SSW.

*Thermometer.*

Fahrenheit, mean . . . .	44°
Range from . . . . .	31 to 61°

The following were made in the month of May :

*Thermometer.*

Fahrenheit, mean, . . . .	40°	The sea, mean, . . . . .	43
Max. . . . .	48	Max. . . . .	49
Min. . . . .	30	Min. . . . .	36
Winds, S. W. . . . .	12 days	N.E. 2	
South, . . . . .	4	North 2	
N. W. . . . .	3	Calm 1	Variable, 5

The Report of the Commissioners of the Academy of Sciences of Paris in 1825, on the voyage of M. Duperry, says : " Since the



celebrated voyages of Cook, no one doubts that the southern hemisphere is decidedly colder than the northern. At what distance from the equator therefore does this difference commence, and by what law does it increase as the latitude increases?" Dr. Foster also, in his celebrated and valuable work, published in 1772, observes on the subject of the temperature of the southern region as follows: "If we compare the meteorological observations of the Falkland Islands and corresponding degrees of latitude in the northern hemisphere: if we consider Tierra del Fuego and Staten Island in  $54^{\circ}$  south, the whole land covered with eternal snows in the summer months, every unprejudiced reader will find it necessary to allow the temperature of the southern hemisphere to be remarkably colder than the northern: and no one will, I believe, for the future, venture to question this curious fact in the natural history of the globe." We have here a very extraordinary instance of a well-informed scientific man allowing his opinion to be swayed by that very prejudice against which he would warn others. Had he for a moment reflected, that at Quebec, in latitude  $47^{\circ}$  north, it is a common occurrence every winter to see the thermometer at  $20^{\circ}$  or even  $30^{\circ}$  below zero, where could he have found a corresponding temperature in the southern hemisphere, even to the southward of the  $47^{\text{th}}$  parallel? But we will consider this question a little farther; for it is one of no little interest, and, if we mistake not, it will be no difficult matter to shew that a corresponding climate must not be looked for in corresponding parallels of the northern and southern hemispheres.

Cape Horn and the adjacent parts may be considered as under the parallel of  $55^{\circ}$  south; let us see what we find under the parallel of  $55^{\circ}$  north. We have there the north of England, the Baltic, Denmark, Koningsberg, Moscow, the winters of which are well known for their rigour—if we except England,—for an obvious reason, i. e. being surrounded by sea. The Baltic is frozen and its ports are closed by ice. In Kamtschatka and Tobolsk the winters are famed for their severity. In North America the parallel of  $55^{\circ}$  passes over Labrador and Hudson's Bay; the winters there are severe indeed: nay, even at Quebec, to which we have just alluded, several degrees to the southward, the thermometer in the winter is lower than ever it was heard of to the south of the equator. The winters of Newfoundland, the northernmost part of which is far south of  $55^{\circ}$ , are severe and protracted; its harbours are completely frozen up for three or four months of the year; the snow lies long on the ground! the winter seldom breaks up before May, and the whole coast is beset with icebergs for the first part of the summer.

Let us now consider the winters of Cape Horn. Had this part of the world been known to the ancients, we should most assur-



edly have found it named in classic lore as the abode of Æolus, from whence he dispersed the winds over all quarters of the globe. Such a designation would by no means have been misapplied ; for most assuredly wind, accompanied with rain, sleet, snow, or hail, is the prevailing characteristic of this climate. It is a climate of excessive humidity ; for, besides that arising from the vast expanse of ocean by which it is surrounded, rain, more or less, falls every night ; not a single twenty-four hours passed during our stay without it. The quantity of rain that fell during one calendar month, from the 21st of April to the 21st of May, was eight inches, which is more than a third of the quantity that annually falls in England. The rain is so violent and incessant that one would suppose that the waters of the firmament were again falling in the shape of a second deluge. The gullies between the hills become so many courses for torrents of water ; and the continuance of the rain at times is so protracted that it becomes tedious, and a temporary gleam of sunshine is cheering to behold ; the heart gladdens at the welcome sight, and feels the full force of the lines—

“ ’Twas sweet once more to view on high  
The rainbow, based on ocean, span the sky.”

Full well do I remember, after being confined several days, witnessing this gratifying symbol amid the gloomy distant regions of Hermite Island ; for it was the only time we saw it there during the space of eight months.

South-west gales are exceedingly violent at Cape Horn, and are accompanied by the most terrific squalls that I have ever witnessed ; these squalls may be considered hurricanes for the short time they last. They rush down the hills in the ravines with the most awful violence, threatening destruction to all before them, carrying the sea up in spray over the sides of the cove some hundred feet. Whenever they caught the Chanticleer on her broadside, their effect was to heel her over to a considerable angle, as if she were under sail, and this, too, in a well-sheltered cove. Sheltered from the sea it certainly was ; but the severity of the wind, as might be expected, was greater near the high land, where its progress is arrested in one part only to increase its violence in another. These south-west gales were frequently attended at their onset with thunder and lightning, at least such was the case in St. Martin's Cove, in April and May ; but the same manifestation of electrical agency did not take place at sea.

The north-west gales are not generally considered so heavy as those from the south-west quarter ; they are always accompanied by rain ; but nevertheless blow with great force, and frequently veer round to the south-west without abating their fury. The wind will commence in the north-west, and is rapidly succeeded



by a gale from some other point of the western quarter, most generally the south-west.

Easterly winds are reported to be most prevalent in the winter months of June and July, but they seldom blow with much strength, nor are they of long duration. It may be generally expected that they will be succeeded by a westerly gale. The weather accompanying them is mild and fine, but there are a very few days in a month of fine tranquil weather. A gentle breeze from the north-west is sometimes attended with fine weather.

We have seen that the seaports of those countries under the same parallel in the northern hemisphere, as Cape Horn is in the southern, are frozen up, and that the winters of the various places there are famed for their severity. Such, however, is not the case with Cape Horn; none of the little bays or ports which abound so plentifully in its neighbourhood are ever frozen up, nor are those of Staten Island. The sealing vessels that frequent this island, have scarcely ever found the brooks of fresh water, so numerous there, in a frozen state for many hours together; and the snow rarely lies for two or three days at a time on the ground. Not only does the thermometer show the fact, that the southern regions are absolutely milder than the northern; but Nature herself asserts it. The Fuegian Indians are perfectly naked; they care for no dress, and seldom use it. Where such is the case, the cold cannot be very severe. How is it in the corresponding northern parallels? The Canadian, the North American Indian, the Esquimaux, the Russian, the native of Kamschatka, sufficiently attest by their warm clothing the peculiar severity of their respective climes. Again, vegetation, that unerring index of climate in all parts of the world, proclaims the winter of these southern regions to be mild and temperate. Here in the latter end of May (answering to our November) the face of nature abounded with luxuriance, many of the vegetable tribe were in flower, and every thing wore its cheering summer aspect.

On the subject of the climate of Tierra del Fuego, Captain P. P. King, R. N., who commanded his Majesty's ship *Adventure*, and was employed surveying, at the time we were here, has made the following remarks in a paper laid by him before the Royal Geographical Society.\* After stating that the temperature of Port Famine, two degrees to the northward of Hermite Island, is frequently as low as 29° Fahrenheit, in the summer, he says, "One circumstance, however, deserves to be mentioned, which may in some measure account for the innocuous effect of so low a temperature. I have occasionally, during summer, been up the greater part of the night at my observatory, with the internal as well as the external thermometers as low as the freezing point,

\* Geographical Society's Transactions, vol. i. pp. 168, 169.



without being particularly warmly clad, and yet not feeling the least cold; and in the winter, the thermometer, on similar occasions, has been at  $24^{\circ}$  and  $26^{\circ}$  without my suffering the slightest inconvenience. This I attributed at the time to the peculiar stillness of the air, although, within a short distance in the offing, and overhead, the wind was high.

"Whilst upon this subject," he adds, "there are two facts which may be mentioned, as illustrative of the mildness of the climate, notwithstanding the lowness of the temperature. One is, the comparative warmth of the sea near its surface, between which and the air, I have, in the month of June, the middle of the winter season, observed a difference of  $30^{\circ}$ , upon which occasion the sea was covered with a cloud of steam. The other is, that parrots and humming-birds, generally the inhabitants of warm regions, are very numerous in the southern and western part of the strait—the former feeding on the seeds of the winter's bark, and the latter being seen by us chirping and sipping the sweets of the fuchsia and other flowers, after two or three days of constant rain, snow, and sleet, during which the thermometer has been at the freezing point. We saw them in the month of May upon the wing, during a snow shower, and they are found in all parts of the south-west and west coasts as far as Valparaiso. I have since been informed, that this species is also an inhabitant of Peru, so that it has a range of more than  $41^{\circ}$  of latitude, the southern limit being  $53^{\circ}$  south."

That no such bird inhabits an extent so far as  $53\frac{1}{2}^{\circ}$  north is quite certain. There are two observations to be made on the foregoing; namely, first, that at Port Famine, which is two degrees to the northward, and *nearer the equator* than Hermite Island, the winter appears to be *colder*, as the thermometer falls lower; and, second, that the birds alluded to by Captain King would find a more temperate region still to the south, but are no doubt glad to find a retreat in the sheltered creeks and inlets of the northern part of Tierra del Fuego, where they can enjoy rest and quietness, which they could not find in the more boisterous regions of Cape Horn. The fact appears to be, that a low mean temperature prevails throughout the year in the southern seas: at Cape Horn the sun produces but little effect in the summer, and there is no intensity of heat for a few months as in the northern regions, owing, in my opinion, to the disproportionate expanse of ocean to that of land. The climate of the Falkland Islands corroborates this assertion: there it is mild; the thermometer is seldom seen so low as  $32^{\circ}$ , generally ranging about  $40^{\circ}$ . Snow never lies there for twenty-four hours, excepting on high land; the harbours are never frozen up, and the crews of vessels go barefooted with impunity; and these islands are in about the same parallel as Port Famine, with a milder climate.



I cannot help thinking that the circumstance which occurred to Cook in his first voyage, has gone far towards confirming an erroneous opinion of the cold of these regions. It is quite inexplicable to me how Dr. Solander and a party who were ascending a mountain, (while the *Discovery* lay in the bay of Good Success,) could possibly feel the effects of cold as they did. We are told that he was seized with a torpor, the effects of the cold; and that two black servants were actually frozen to death asleep. And yet here plants flourished!—they returned to the vessel with some hundred new specimens! One would suppose that it would be needless to search for plants in a climate so rigorous in its effects. It is true that the *Discovery* was just from Rio Janeiro; and the trifling reduction of temperature, certainly not severer than a winter in England, might have produced a different effect on them than if they had been a little longer injured to it.

In consequence of the equability of temperature in the climate of Cape Horn, produced by the immense expanse of ocean, the summer there is much cooler than that of the northern parallel; for there is no terrestrial radiation, nothing, as it were, to catch the sun's rays, which must necessarily fall powerless almost on a wide extensive sea. But the winter compensates for this deficiency, and a remarkable degree of mildness prevails; for as the sea preserves nearly a uniform mild temperature throughout the year, about  $44^{\circ}$ , the air over it can never remain much below it for any great length of time.

Hail is frequent at a temperature from  $42^{\circ}$  to  $48^{\circ}$ . The average degree of dryness shown by Daniell's hygrometer was two or three, the maximum being seven or eight, notwithstanding which evaporation was remarkably quick, arising probably from a low barometric pressure, and a brisk wind. We had no fog at Cape Horn, and the nights when clear are remarkably so, the stars shining with peculiar brilliancy, appearing as large as planets: this arising, no doubt, from the humidity of the atmosphere increasing its transparency. The cloudy nights prevent any radiation; and as the sun seems to act a subordinate part in this climate, there is a perfect equality of temperature throughout the twenty-four hours.

Of the barometer, I shall only observe here, that with the severe south-west gales we experienced, it always fell, and sometimes very considerably; but we have also had the finest weather with the lowest state of the barometer. A north-west wind in a gentle breeze has been attended with very fine weather, and the barometer below  $29^{\circ}$ . The height of the mercury is perpetually fluctuating, showing a constant change in the aerial column. The boisterous character which belongs to the climate of Cape Horn, and the great prevalence of westerly winds, render the passage into the Pacific Ocean most tedious and unpleasant; but I can



find no reason whatever to sanction the prevailing opinion that the southern regions are  $10^{\circ}$  latitude lower in temperature than the northern hemisphere. Vessels that go round Cape Horn in winter, in the vicinity of the Cape, rarely find the thermometer below the freezing point; and we have ascended hills in Hermite Island two thousand feet high, in the winter, and yet have found no snow on them. The hills of Cape Horn are not covered with snow even in the winter, whereas those of Staten Island are.

Such then is the disparity in point of temperature, between the northern and southern hemispheres, and the opinion that the latter is colder than the former by  $10^{\circ}$  of latitude is certainly most erroneous. It is allowed that a vast volume of water will acquire an accession of temperature slower than an equal extent of land, and also that an immeasurable depth of ocean must cool slower than land; for this reason, islands are cooler in summer, and warmer in winter, than continents. The abyss of water in the southern ocean gives mildness and equality of temperature to the southern parts of America, while the vast tracts of high land in the arctic regions, eternally covered with snow and ice, constitute a perpetual source of cold for the north.

And here it may be well to revert, while the facts are before us, to the remarkable difference between the height of the barometer at the Cape of Good Hope and at Cape Horn, the two southern extremes of the great continents of Africa and America. The barometer at Cape Horn, Staten Island, and New South Shetland, scarcely ever reaches 30 inches, and the mean of the year is 29.3 or 29.4 inches; so that the mean state of the barometer at Cape Horn is absolutely under its lowest state at the Cape of Good Hope. And the average difference between the atmospheric pressure of Cape Horn, and that of the Cape of Good Hope, is nearly one inch of the barometer, or one-thirtieth part of the pressure of the whole atmosphere. But the same thing precisely occurs within a much smaller space than that between the two capes; for at Valparaiso on the coast of Chili the barometer stands equally as high as at the Cape of Good Hope; so that within a space of a thousand miles there is a *permanent* difference of one inch in the pressure of the atmosphere. And if we suppose, that at any time the barometer is high at one place and low at the other, we shall have at Cape Horn the barometer at 28.3, while at Valparaiso or the Cape it will be at 30.6, being an occasional (nay frequent) difference of more than two inches. Now, if we consider these changes to take place principally in the lower strata of the atmosphere, which in fact must be the case, and that they range within the limits of five or six miles altitude, how great must be the difference of the weights and pressure of the reciprocal columns! It is not surprising then that there should be continual gales endeavouring to restore the equilibrium.



From the foregoing statements it may be safely inferred that "the mean height of the barometer at the level of the sea being the same in every part of the globe," is by no means correct; but, on the contrary, that every place has its own peculiar height of the barometer; and to this permanent variation, a circumstance not heretofore recognized, may be attributed the perpetual interchange and motions of the atmosphere.

Every place has no doubt its own specific pressure and appropriate temperature, as well as that of magnetic and electric action. The laws which regulate the barometer are not yet thoroughly understood, nor does our present knowledge of hydrostatics solve the whole phenomena. Meteorology is a science yet in its infancy, notwithstanding the vast mass of tables already supplied to it; and we want some master-mind to unravel the mysteries of the subject, and to propound the laws and principles of the science. It must be undertaken in a general way, and not with mere local observations. Are there not zones of atmospheric pressure as well as of temperature? The mean pressure within the tropics is  $30^{\circ}$  with a very small fluctuation, a range of not more than 0.5 inch during the whole year; while that of the extra-tropical to the latitude of  $40^{\circ}$  perhaps have the highest mean barometer  $30.2$  or  $30.3$  inches, and a greater range of fluctuations, amounting to an inch, or an inch and a half. Again, in the cooler latitudes from  $40^{\circ}$  to  $60^{\circ}$  and upwards, there is an unequal and fluctuating range, the mean pressure being below  $30^{\circ}$  and about  $29.8$  inches, with a wide range from  $28.1$  to  $30.8$ , being two and a half inches.

Of the polar climes we have not sufficient evidence to state anything with precision. It appears then that the extra-tropical or middle zone is the zone of high pressure, the inter-tropical of equal pressure, and that the cooler climes have the greatest change of pressure, combining both the highest and the lowest, but with the lowest mean pressure. Before predicting from the barometer, it is necessary to know its local mean and action. The foregoing conclusions are the result of observations at many places in each hemisphere.

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MRS. ELIZABETH COOK, the Widow of Captain James Cook, the great circumnavigator, died at Clapham in May last, upwards of 90 years of age, and has been buried in the family vault in Great St. Andrew's Church, Cambridge. She had been in the receipt of a pension from Government of £185 per annum, to the time of her death, from the 15th of February 1779, the day after that on which her husband was killed at the Sandwich Islands. Her will has been proved in Doctors' Commons, and her property sworn under £60,000. She bequeathed the Copley medal, struck in honour of her husband by the Royal Society, and the medal also struck in honour of her husband by order of George III. (of which there never were but five,) to the British Museum. The Schools for the Indigent Blind, and Royal Maternity Charity, are benefited to the amount of nearly £1,000 Consols, besides various other public and private charities.



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**SAILING DIRECTIONS FOR THE ENGLISH CHANNEL**, including a general Description of the South Coasts of England and Ireland, and a detailed Account of the Channel Islands. By Captain Martin White, R. N. London. *Printed for the Hydrographic Office of the Admiralty.*

MOST of our readers are well acquainted with the services of Captain White in the surveying department of his profession, and that the result of them is the most correct chart of the English Channel we have, a chart which has served as the basis of all others with any pretensions to accuracy, since it was constructed. Seventeen years\* were devoted by Capt. White to an examination of the Channel and its islands, besides some of its harbours, plans of which were made and published, and the directions for which we have in the work before us. Yet, however valuable these may be, we look on the deep-water work as the most important of Capt. White's labours, because it is that which is most generally useful.

On opening these sailing directions, we were struck by the method adopted in the arrangement of the materials—a feature, by the way, of no little importance in a work of this kind; for what can be more desirable to the seaman, than to be able to put his hand immediately on the information he wants, and to find it collected together? This has been well attended to, and the excellent system of marginal reference informs him at a glance of the part of the coast treated on, wherever he may casually open the book. The directions are divided into chapters and sections: the first, containing some very useful hints for vessels coming into the British Channel, information on the soundings to the westward and southward of Scilly, on the soundings met with in running for the Channel on different parallels, and in the fairway of the Channel, all of which to the seaman is information of the most valuable kind. After conducting the navigator safely into the Channel, a description of the coast of England, and the various dangers off it, is comprised in another section; and a third, in like manner, describes the coast of France between Boulogne and Cape Frehel, the extent to which Captain White's survey reached. We are glad to see the valuable information of that able French hydrographer, M. Beautemps Beaupré, on the dangers to the westward of Cape Frehel is introduced here.

We now come to the description of the Channel islands, Guernsey, Jersey, &c., with their labyrinth of rocks and shoals, forming the second chapter, in which Captain White has been no less elaborate than the nature of the locality demanded. Indeed, we might almost say that the description of these islands and the marks for the numerous dangers by which they are surrounded, those immense patches of rock known by the name of les Minquiers, Chausey, &c., with ample directions for navigating the various channels by which they are separated, forms the principal strength of the work, and one of the best specimens of the kind, for conciseness and brevity, that we have

\* From 1812 to 1829, in which time the *Shamroc* and the *Linnet* were successively under his orders.



yet seen. The directions are drawn up on the supposition of the vessel sailing in still water, but Capt. White has been equally particular in giving the set and velocity of the tides, in the various channels, with the same perspicuity.

In the third chapter we have descriptions of those parts of the south-west coast of Ireland that were visited by Captain White in the course of his survey. These are few, but valuable as far as they go: they appear to extend as far as Valentia—westward of Cape Clear, and eastward of this Cape as far as Waterford.

In chapter the fourth we have an interesting dissertation on the tides of the English Channel and the Bay of Biscay in general, which will, no doubt, have its due weight with the learned gentlemen who are now devoting their attention to this important subject. And we cannot but stop here, to congratulate our nautical readers on the active zeal with which inquiry is going forward relative to the tides in general, at the present moment. The praiseworthy labours of Mr. Lubbock and Professor Whewell, seconded as they are by government and numerous individuals, both in and out of the public service, cannot but be attended with not only the most useful but interesting results. We observe that Captain White combats the opinion of the late respected Major Rennell, concerning an outset to the north from the Bay of Biscay. We shall not allow ourselves to follow him, satisfied that a change of circumstances, such as the direction of a strong prevailing wind, at different ages of the moon, will be attended with different effects, and we should look for a northerly set more particularly with strong southerly winds, although Captain White cites some remarkable instances which do not appear to confirm such a theory.

Another no less important feature of this work is, a series of views, in 25 lithographic plates, which enable the seaman to recognize the points used as marks, a kind of information particularly acceptable to him, independent of the ornamental character they impart to the work. And we have yet to notice the well-digested index, which makes every tittle of information in the work immediately accessible. We wish the same could be said of other works of higher pretensions in the present day—it is really a most important part of a work—with it, a reference of five minutes will obtain any piece of intelligence to be found in a book; whereas, without it, five hours will sometimes not do it; and nothing can be more preposterous, than to suppose that every work is to be waded through, from beginning to end, in an age like the present. We should have observed, with reference to the directions for the channel, that the principal ports of the south coast of England only are treated on, and in a manner to enable a ship homeward bound to take refuge in them without the aid of pilots. These directions should be found on board every ship that navigates the Channel, and may justly be considered as a most important addition to the Hydrography of the British Islands.

**GEOGRAPHY.**—Although it may not fall exactly within our province to notice the merits of maps in general, we cannot help pronouncing an eulogium on the new London Atlas of Universal Geography, by Mr. John Arrowsmith. A work of this kind, which would represent the state of our geographical knowledge correctly down to the present day, was not to be had until the appearance of this atlas, while the generality of those extant, mostly without a date, were not only rendered defective by the rapid strides which have been made of late years in geographical discovery, but in other details were also very deficient. The unwearied pains which Mr. Arrowsmith has devoted to this work during the years in which it has been preparing, and the scrupulous



attention he has paid to the Coast Surveys, as well as topographical details, to which he has had ready access in the Colonial Office, as well as the Hydrographical Office of the Admiralty, justly entitle him to reward, and his atlas to be esteemed, as it really is the best, and therefore the most valuable, of the present day, that this or any other country can produce. The maps, which amount to 50, are about 20 inches by 24, and are well worth the price of twelve guineas.

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**COMMUNICATING TIME AT SEA.**—A letter of Lieut. Liddell's on this subject, which will be found in our present number, is well deserving the attention of our nautical readers. The plan of giving the Greenwich time, so easily obtained by the error and rate of the chronometer, instead of working up the longitude by the dead-reckoning from the preceding noon, is a good suggestion of Lieut. Liddell's, and is likely to be as free from error as the other is to be attended with it. We would remind our readers that the adoption of it rests with themselves. We shall be ready to forward it all in our paper.

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**LOSS OF H. M. SCHOONER FIREFLY.**—In our last number we gave some few particulars of the loss of the Firefly. The following account, which has been handed to us from an officer of the vessel, gives some detail of this melancholy transaction, and confirms the statement we there gave.

*Extract of a Letter dated 20th March, 1835. Belize.*

"We sailed from Belise for Jamaica on the 24th ult. with light baffling winds, which prevented our getting to windward. On the 27th, at 9 P. M., (being myself in bed at the time, laid up with the fever,) we were just going about, when the vessel struck on the Northern Triangles, about seven miles from the South Kay, and we found ourselves surrounded by breakers. This was the first intimation of our danger, for by our reckoning we were twenty miles distant from the reef. As soon as we knew our situation, all hopes of saving the vessel were given up, although every exertion was made to do so. We had not a boat capable of carrying out a bower anchor, and the stream cable snapped short. At 3 in the morning we were riding with both bowers ahead, the best bower parted, and the small bower came home: all the time from our first striking the vessel was thumping tremendously, and we were in momentary expectation of her going to pieces. The false keel floated alongside, and the bolts in her keelson started four inches; the masts had all been struck, and every thing made as snug possible, but we could not heave the guns over, for fear of striking on them.

"A raft was quickly prepared of all the spars, and at daylight the commander agreed to the necessity of quitting the vessel, as no more could be done, we got every thing that we could out of the vessel that might prove useful, and at 8 we mustered the men in the boats and rafts, with the intention of returning to Belize. My station was the cutter; we had thirty men in the cutter and on the raft, when some person unknown cut the raft adrift, in consequence of which she drove immediately on the rocks within a few yards of the vessel. In this condition every soul on it must have perished in the surf, had I not slipped the cutter's painter, and by great exertions of the crew succeeded in towing it off. The current, however, was so strong, it was impossible for me to return to the schooner, and it blowing half a gale of wind at the same time. The commander then gave directions for the sick men to go in the gig to Belize, and sent orders by her for me to return to him, a thing utterly impossible. The gig passed me and gave the message, and must have sunk



in less than an hour after, and all in her perished, but the boat has since been found. Soon after receiving the message we were obliged to bear up with the cutter, but fortunately made the sand bar, on the south end of the reef, before dark, where we landed the men.

"At this time we had 16 gallons of water, 30lbs. of bread, and 12lbs of salt meat, for 30 souls. By 7 we had every thing landed from the raft on the Kay, where we slept all night. At daylight we tried to beat back to the schooner with four men, but the boat was in such a state that she could not stand the sea, the mast and sprit were both sprung, so we were reluctantly forced to give up the attempt, and return to the sand bar. Our only prospect now was to procure assistance from the shore, 90 miles off, so leaving the men on the sand, with all the provisions, and taking nothing for ourselves, I started with the cutter to procure assistance from Belize. We were three days in making the passage; what we suffered I cannot describe. It was blowing a heavy gale all the time, which obliged us to keep continually baling out the boat, and to scud before it, expecting every moment to be engulfed in the sea.

"Happily we landed safely at Belize and got immediate assistance, and went off in another boat to save the men left behind on the reef. In a week we succeeded in taking all the men off the sand bar, that we found there almost exhausted from the want of provisions. We found the schooner was driven up between two rocks, with her stern projecting beyond them. The commander and the rest of the crew, except two, had left for want of water two days before. He, poor fellow, was very unwell. A boat was sent to look after him. The raft, it appears, drifted ashore 60 miles to the northward. The men on her walked down the coast 70 miles, but left the commander for dead on the beach. They were found by the boat sent in search of them, and arrived at Belize two days after me, when I again started along shore to look for the commander, hoping there might be a chance of saving him. It blew so hard we could not advance above 40 miles, when I landed with two artillery men to beat the bush for him. Happily we were successful, and found him on the third day, alive but quite unwell. The day before we learned that some fishermen had found him, and given him some food. It appears he had found some cocoa-nuts, the milk of which had kept him alive. I have, as you may suppose, lost every thing, and have no money to get more. My health is as good as could be expected, and I am treated in the most hospitable manner. We have saved 41 out of 52 souls."

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**LOSS OF H. M. SCHOONER, JACKDAW.**—We regret having to state, as an accompaniment to the foregoing, that the extract from the Jamaica Dispatch in our last concerning the loss of the Jackdaw, under the command of Lieut Edward Barnett, is correct. It appears that the Jackdaw sailed from Port Royal, Jamaica, on the 8th of March, and anchored at the South Cay of the Serrana on the morning of the 10th, for the purpose of determining its longitude by observation. This being done, Lieut. Barnett shaped his course the same afternoon for the island of Old Providence, for the same purpose; and at half past 4, on the following morning, the Jackdaw struck on the reef which extends from the north extremity of that island. Such was the violence of the surf, an unusual swell having prevailed the day before, with a strong wind, that all hopes of getting the vessel off the reef were at once abandoned, the masts were cut away, the water started, guns thrown overboard, and the weather anchor let go, to lighten her, and a raft was constructed, by means of which the boats were removed clear of the surf, and safely moored.



The Jackdaw being a new vessel, resisted the violence of the surf long enough to enable Lieut. Barnett, by means of a larger raft, to preserve all his provisions, and the astronomical instruments; which being done, he proceeded with his crew in a sloop which had gone to his assistance, and landed on the island.

On the following morning H.M.S. Gannet arrived, and conveyed Lieut. Barnett and his crew to Jamaica, where we regret to find that H.M.S. Vestal was lying with yellow fever on board. The mortality among her officers and crew had already been so great as to render it necessary that she should be conducted by supernumeraries to Bermuda. The loss of the Jackdaw is attributed to a S.W. current of one mile per hour; and it appears by Lieut. Barnett's observations, that the reef off the north part of the island on which she struck extends more than ten miles off the land, thus affording another convincing proof of the inaccuracy of the best charts of it. It is gratifying to find, that, owing to the judicious proceedings of Lieut. Barnett, and the praiseworthy exertions of his men, not only have no lives been lost, but every thing has been saved from the vessel.

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MR. DEANE'S EXHIBITION, 209, *Regent-Street*.—In our last number we briefly alluded to the preparations of Mr. Deane, for exhibiting what he has very appropriately termed the "spoils of the ocean." Some few of them there certainly are, and those of a most interesting kind to our nautical readers. One of the guns of the Royal George, a handsome brass 24-pounder in excellent condition, considering its repose of 52 years at Spithead beneath the waves is now lying there, in state; a noble proof of the success of Mr. Deane's exertions.

Another no less interesting relic of this ship, but one of a more humble kind, is an iron pot, which from the remnant of bones cemented together in it would lead us to infer that it had been, perhaps, on the galley fire at the time of the accident, preparing a meal for some of the brave fellows who perished. Mr. Deane has also preserved several bottles from the wreck of the Bogue, bearing evident external proofs, in the shape of oyster shells adhering to them, of their long rest in the vaults of old Neptune. Numerous other articles, in the shape of iron-work, &c. lie strewed at the foot of each of the paintings which ornament the sides of the room, and represent some of the principal of Mr. Deane's submarine explorations. On the whole, it is one of the most interesting exhibitions that we have seen, and will particularly gratify the nautical visiter. We extract the following interesting anecdote from Mr. Deane's pamphlet.

"When the Royal George was going down, Lieutenant Durham (her 7th lieutenant, aid-de-camp of Admiral Kempenfeldt, and now Admiral Sir Philip Henderson Durham, G.C.B.) threw off his coat, and dashed into the water, where he was seized by a drowning marine, by whom he was twice carried down. On rising the second time, Lieutenant Durham succeeded in extricating himself from the dying man's grasp, by tearing off his waistcoat, and he, with one of the seamen, was eventually saved by seizing the halcyards from the mizen-topmast head, by which they reached the mast-head, from whence they were taken with great difficulty by a boat. The poor marine's body was washed on shore a fortnight afterwards, with the waistcoat, by which he had caught hold of Lieutenant Durham, so firmly twisted round his arm, that a pencil-case bearing the lieutenant's initials, was found safe in the pocket, and restored to the owner. The Captain, under whose direction, with that of first Lieutenant Saunders, the ship was careening, was on the quarter-deck at the time the accident occurred, and ran down to warn the Admiral, who was in his cabin; but he was unable to effect his purpose, from the cabin door having become fixed. When Lieutenant Durham had reached a place of temporary security, he



observed the Captain holding by the weather mizen-top-sail-yard arm, and sent a boat to his aid. These two were the only officers saved. The number of the ship's company on board was nearly 800.

**M. DE BLOSSEVILLE.**—In a former number, we stated that a vessel was fitting out at Cherbourg, under the command of M. Trehouart, to proceed to the coasts of Iceland and Greenland, in search of M. de Blosseville, in the *Lilloise*, which vessel has been absent since the summer of 1833. The vessel commanded by M. Trehouart is the *Recherche*, and we find that she sailed in quest of the unfortunate navigator from Cherbourg on the 26th of April for Dunkirk, from whence she was to proceed immediately to the northward. In order to encourage the search for the *Lilloise* generally, the French government have just decided as follows:

“1. That a reward of 100,000 francs (£4000 sterling) shall be bestowed on the French or foreign navigators who may restore to their country all or part of the officers and crew of the *Lilloise*.

“2d. That a reward proportioned to the service rendered shall be given to those who may announce the first correct intelligence of them, or who may restore to France any papers or effects whatever which have belonged to this expedition.”

Such are the decisions of His Majesty Louis Philippe, and we sincerely trust that they may contribute towards the recovery of the most zealous, promising, and scientific officer of the French Navy in the person of M. de Blosseville.

In 1830 the French Government settled a pension of 4000 francs per annum on Captain Dillon, with the cross of the Legion of Honour, for having discovered the fate of La Perouse's ship, and there is no doubt that the present Government would act with equal liberality towards the persons who might furnish correct information concerning the *Lilloise*. It is supposed that if this vessel should have been wrecked, it must have been on the ice on the coast of Greenland to the northward of lat. 60. from whence the crew might have reached the land, as has occurred to several whalers.

**ROBSON'S INSTANTANEOUS FIRING SIGNALS.**—These signals have been submitted to our notice. From the manner in which they are constructed, it appears they must be handled with the utmost care, or consequences of the most dangerous nature will assuredly ensue. The light which they give is unquestionably most brilliant, and they have equal claim to patronage on the ground of being impervious to any damp from age or local causes; but as M. Robson has made the most projecting part of the whole the most vulnerable, and as a trifling blow is sufficient to ignite it, we think he has done wrongly. At the same time, as they are doubtless of a convenient and portable form, and in careful hands will assuredly answer their intended purpose, we shall be glad to see our objection of their too easy nature removed by the ingenuity of their inventor.

**STEAM NAVIGATION.**—At page 303 we alluded to a lecture on this subject to be given by Lieut. R. Wall of the Royal Navy. We hope to be able, in an early number, to lay before our readers the substance of this gentleman's discourse on a subject of so highly interesting a nature; at the same time we cannot help commending the zeal of Lieut. Wall in pursuing a branch of research so intimately connected with, and therefore so truly acceptable to, the naval service in general.



**HARRISON'S CHRONOMETER.**—This father of all chronometers, the original and extraordinary production for which Harrison received the reward of £1000, is likely to be restored to its former good condition by the public-spirited exertions of Messrs. Arnold and Dent. We understand that these gentlemen, with that respect for the first efforts in their art, and more particularly for this chronometer, which is decidedly a curiosity, have undertaken to put it in order, and have received it for that purpose from the Royal Observatory at Greenwich. Such conduct is well worthy the heads of a profession, and reflects honour in these money-making times, on those who adopt it.

“CAPTAIN ROSS'S PUBLICATION.”

*To the Editor of the Nautical Magazine.*

“SIR—I opened this ponderous work, expecting that the first thing I should find in it would be some expression of gratitude for the general anxiety that had been expressed in this country for the safety of its author; the result of which feeling was, a subscription of somewhere about six thousand pounds, to equip an expedition, and send an enterprising officer in search of him and his companions—and this, too, to the no little trouble of some leading men, who nobly lent their aid, not only towards the sum that was subscribed, but the best means of appropriating that sum, so that it should not be spent in vain. Truly, Sir, when I recollected that the name of Ross and his companions had been re-echoed from one end of the country to the other, the deep solicitude that had been every where felt for his safety, the eloquent appeal of a gallant admiral, who said at a public meeting, “I will not believe that nineteen sailors, who had felt no hope of gain but the advantage that would result from their exertions to this country, will be allowed to return in vain at every season of darkness to their miserable night, without a struggle being made for their lives,”—an appeal which was well seconded by many, and the objects of it assisted by Government,—I certainly did consider that some acknowledgment was due from the principal of those individuals for whom all this had been said and done; and I naturally expected that it would have been the first thing in the ‘publication.’ But, alas! instead of this, I found a *portrait of Captain Ross!* And although I persevered in my endeavours to find something to the purpose in some part of the work, I regret to say that I was disappointed. But perhaps, Mr. Editor, you may have been more successful, and can point out a saving clause of the kind. Trusting that you may be able to do so, for the sake of the blue jackets, who are not in general accused either of a want of gratitude or generosity,

“I am, Sir, your obedient servant.

“A TAR.”

[Our correspondent has fairly puzzled us. We have not mustered sufficient resolution yet to encounter the work to which he alludes; but we apprehend there is little more in it of the really useful kind than will be found in our chart of the North Polar Regions. As for bears, Esquimaux, and foxes, we have had them *usque ad nauseam*. And as for the old question of the N.W. passage, we still find a coastline of two hundred miles extent yet unexplored, and laid down on the report of Esquimaux.]

**LUNAR OBSERVATIONS.**—We understand that Government has bestowed a handsome pecuniary reward on Mrs. Janet Taylor for an abridged method of clearing the lunar distance, by which means this process will be reduced to an operation of less than five minutes.—We congratulate Mrs. Taylor on the success which has attended her efforts, and navigators in general on this acquisition to their code of problems.



**EUPHRATES EXPEDITION.**—We regret to find that a stop has been put to the progress of this interesting expedition. It is supposed to arise from a determination that all communication between this country and India in that direction shall pass through Alexandria. No intelligence has yet been received of Capt. Chesney's intentions in consequence of this; but as the *George Canning* was chartered to make the voyage to Bombay in the event of any thing of this kind happening, we presume she will immediately proceed thither, and we shall expect to hear of Captain Chesney, with the means he will have, performing another voyage up his favourite river.

**HALL'S STEAM ENGINE IMPROVEMENTS.**—We are requested to state, that the observations in our last number on this subject by "an Engineer," will be replied to in our next; and we take this opportunity of assuring Mr. Hall that we are anxious to do him all the justice which his cause deserves.

The following order respecting masters in the Royal Navy, has been issued by the Admiralty, dated April 28th :—As it is of essential importance to the safe conduct of his Majesty's ships and vessels in all parts of the world, as well as to their particular efficiency when ordered on special service, that a record should be kept at this office of the skill and attainments of the masters of his Majesty's Navy, so that an appropriate and immediate selection may at all times be made; it is the direction of the Lords Commissioners of the Admiralty that whenever a ship shall be ordered to be paid off, or whenever any master shall be discharged therefrom, the captain of such ship shall transmit to them a special report of the professional qualifications of the master, for the accuracy of which the said captain is to consider himself responsible—this report is to be classed under the following heads :—1st. As to the general skill in navigation.—2d. As to the zeal or aptitude which has been shewn by the master in making himself acquainted with the pilotage of foreign coasts or harbours.—3d. As to the proficiency of the master in chronometrical, lunar, and other astronomical observations.—4th. As to the attention the master has given to the various systems of winds, currents, &c.—5th. As to the particular coasts with which the master is best acquainted.—6th. As to the captain's opinion of the general trust-worthiness of the master as a pilot.

#### CAPTURE OF THE MARTHA SLAVER, BY H. M. SCHOONER, SKIPJACK.

(Extract of a Letter from an Officer on board.)

"On Wednesday, 8th of April, 1835, at 7 o'clock in the morning, a sail was espied about a point on the weather-bow, standing to the westward, with all studding-sail set, coming towards us. On perceiving what we were, she lowered them, and hauled close to the wind. At 10 o'clock we neared her, and signaled her, which was not answered until very nearly eleven o'clock, when she hoisted a very broad Spanish ensign, and fired two guns to leeward, keeping her ensign flying for ten minutes, when she hauled it down. She fired out of defiance to us, imagining, no doubt, that she would intimidate us, from her being nearly three times our size, and of a superior force in every way, and had originally been a coast-guard ship in the Spanish navy. At two P.M. we came up nearer to her, and saluted her with our long Tom, or in other words our 18-pounder, to which she returned an answer by firing broad-sides of round and grape. This was considered sufficient signal for action, (we were then about 30 miles from Little Cayman), and consequently Lieut. Commander Usher immediately issued orders for the vessel to be put into battle-array,



which was executed with the greatest promptitude by the crew of the Skipjack, who were anxiously and impatiently waiting for the awful summons.

"The engagement commenced from the time we fired our first gun, and continued until half-past five, when, perceiving we were gaining on her, she immediately fired two stern-chasers, with a view, if possible, of carrying away our foremast, and set all sail to elude us. The result was, that a running fire ensued, which was kept up on our part, and continued until half-past 10, when running under her stern we hailed her, and asked if she had surrendered, to which she answered in the affirmative. It was a lucky thing she had, for we had but very little powder left, having expended 140 rounds of shot, and 400 rounds of powder.—On boarding her she was found to be the Martha, slaver, pierced for 18 guns, but carrying only 8—(six Congreave 18-pounders, and two long 12-pounders,) with a crew of 56 men and three officers, captain, supercargo, and doctor, from Loango, bound to the Isle of Pines. During the engagement, and about an hour after its commencement, our jib-halyards were shot away, but were immediately bent afresh; this is all the injury we sustained, and we had but one man slightly wounded. The Martha had one man killed, a Spaniard, who was shot while in the act of priming his gun, and eight wounded. Some of us went forward, and were almost suffocated with the smell of a disease which was violently raging among the blacks, called the epidemica dysenterica. When shown below, they were lying about the decks like black rats, some from disease, and others whose death had been hastened from our shots entering the ship and killing them right and left, while the number of broken bones and lacerated wounds that took place was incredible. It appears that as soon as the blacks heard us fire, they immediately stowed themselves away in the hold, among the fire-wood, thinking they would be out of danger; but it was a most untoward event for them, for one of our shots entered, and made such devastation among the wood, that not only the above accidents occurred, but there was one woman who had half her face and head shot off, with her left thigh, which was but hanging to the flesh, and one man who had his head shot clean off.

From the time the Martha left Loango, until she fell in with us, was 43 days. She stopped two months there before she got her living cargo, amounting to 790, out of which 123 died previously to embarkation, 207 of dysenteric fever, leaving 460, of which 13 were killed during the engagement. The slaver was 116 feet long, and 30 feet beam, and her original complement on quitting Loango was 63 men. She has been sent on to Havana, while the Skipjack proceeds to Jamaica, to get a reinforcement of men, and will then sail for the same place. The captain of the slaver has since told us, that when we were gaining on him, he called in all his men, and told them that if they would fight he would give them 100 dollars (about £10) each, it being then his intention to come up alongside, and give us a broadside with his 8 guns: had he succeeded he would no doubt have killed some of us, but in all probability he would have been balked in his attempt by our commander getting the weather gage of him. The men agreed, however, to the captain's proposal and fought until we killed their best gunner, a Spaniard, dead on the spot, as he was priming his gun, of which he was captain, by our long Tom, when all hands run below, and left the captain, his mate and boatswain's mate, to secure the guns; but had they captured us, they would have mustered courage enough to cut all our throats, and throw us overboard—Spanish valour indeed !!!"



## Naval Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—JUNE 21st, 1834.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, OCEAN, 80.

ASTREA—Falmouth.

BARHAM, 50—Captain Corry, arrived on Sunday last, from Sheerness, since which time she has entered several seamen, of whom she was in want; and this morning she was ordered to proceed to the north coast of Spain.

CAMELEON, 10—Portsmouth station.

EXCELLENT, late BOYNE—Portsmouth, for the practice of naval gunnery.

MAGICIENNE, 24—Portsmouth, fitting.

OCEAN, 80—Sheerness.

PEARL, 20—Sheerness, fitting.

PIQUE, 36—Spithead, waiting to take commissioners to Quebec.

PIKE, 12—Plymouth, fitting.

PORTSMOUTH, *Yacht*—Portsmouth.

PRINCE REGENT *Yacht*—Deptford.

ROYAL GEORGE *Yacht*—Portsmouth.

ROYAL SOVEREIGN *Yacht*—Pembroke.

ROYALIST—Plymouth, fitting.

SAN JOSEF, 110—Hamoaze.

SEAFLOWER, *Cutter*, 4—12th Feb. sailed for Jersey.

SPEEDY, *Cutter*—Portsmouth station.

VICTORY, 104—Portsmouth.

WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CASTOR, 36—north coast of Spain.

CLIO, 16—19th June left Portsmouth for north coast of Spain.

HASTINGS, 74—in the Tagus 28th March.

LEVERET—28th March arr. at Lisbon from Madeira; 6th May arrived at Plymouth.

NIMROD, 20—2d May arr. at Lisbon from Vigo; 5th May at Santander; 5th May arrived at Plymouth.

RINGDOVE, 16—5th May at Santander.

ROYALIST, 10—15th April sailed for Lisbon.

SARACEN, 10—10th April and 5th May at Bilbas.

STAG, 46—28th March in the Tagus.

TWEED, 20—14th June sailed for north coast of Spain.

WATERWITCH, 10—19th April arrived at Lisbon.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St.V.—7th May at Malta.

BLAZER, St.V.—Lieut. Com. J. Pearce, 12th April, arrived at Malta.

CALEDONIA, 120—7th May at Malta.

CANOPUS, 84—7th May at Malta.

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CEYLON, 2—Malta.

CHILDERS, 16—20th March at Malta.

COLUMBINE, 18—21st March sailed from Malta.

EDINBURGH, 74—7th May at Malta.

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ENDYMION, 50—11th April left Malta for Algiers.

FAVORITE, 18—April sail from Malta for Tripoli.

JASEUR, 18—7th May at Malta, from Gibraltar.

MALABAR, 74—7th May at Malta.

MEDEA, 6—7th May at Malta.

ORESTES, 18—7th May at Malta.

PORTLAND, 52—Detached on the service of the king of Greece.

REVENGE, 78—7th May at Malta.

SAPPHIRE, 28—27th May left Spithead for the Mediterranean, touching at Falmouth.

SCOUT, 18—17th May at Gibraltar.

THUNDERER, 84—7th May at Malta.

TRIBUNE, 24—Malta.

TYNE, 28—21st April about to sail for Corfu and Gibraltar.

VERNON, 50—7th May at Malta.

VOLAGE, 28—Jan. at Constantinople, 7th Feb.

The Admiral, in the Caledonia, with the Canopus, Edinburgh, Malabar, Revenge, Thunderer, Vernon, Orestes, Hind, and Medea, proceeded to Salamis, from Malta on the 12th May; reached Athens on the 19th, and, after the coronation of king Otho, early in June, was to proceed to Smyrna.

#### CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—Feb. off Sierra Leone. Expected home.

BRITOMART, 10—Gold Coast.

BUZZARD, 10—12th March at Sierra Leone.

CHARYBDIS, 3—12th Oct. at Sierra Leone.

CURLEW—28th Feb. at Sierra Leone.

FAIR ROSAMOND, *Schooner*—Feb. at Ascension.

FORESTER—Feb. cruising off the Bonny river.

GRIFFON, 3—Feb. in the Gambia.

LYNX, 10—Gold Coast, Feb. Expected at Sierra Leone.

PELICAN—11th April arrived in the Gambia; 13th sailed.

PELORUS, 18—8th Nov. at Sierra Leone. Expected home.

ROLLA, 10—21st April arrived in the Gambia; 24th sailed.

THALIA, 46—11th April in Simons Bay.

TRINCULO, 18—11th April in Simons Bay.

#### EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—31st Jan. left Trincomalee for Bombay.

ALLIGATOR, 28—27th November left Sydney for Madras.

ANDROMACHE, 28—5th Jan. at Trincomalee.

CURAÇOA, 26—Ordered home. 15th Dec. at Calcutta, waiting to bring home the Governor-Gen. Lord W. C. Bentinck, expected to embark on the 17th March.

HARRIER, 18—30th Jan. left Madras for the Cape and England; 15th June arrived at Spithead.

HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th Feb. left Sydney for Twofold Bay.

IMOGENE, 18—10th Feb. at Ceylon. Ordered home.

MELVILLE, 74—Vice-Admiral Sir John Gore, K.C.B. 14th March at Bombay. Expected home.

RALEIGH, 16—16th Dec. arrived at the Cape.

RATTLESNAKE, 28—27th March sailed for East Indies, 9th April arrived at Madeira, 14th April sailed.

ROSE, 18—26th January arrived at Bombay.

VICTOR, 18—Left Cowes Roads for the East Indies, 30th March arrived at Madeira, 3d April sailed.

WINCHESTER, 52—14th March at Bombay.

WOLF, 18—5th Feb. sailed from Alga Bay for India.

ZEBRA, 16—31st Jan. left Trincomalee for Bombay.



## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*,  
PRESIDENT, 52.

ARACHNE, 18—10th May arrived at Spithead from the West Indies; left the Havana 9th April. Sailed for Plymouth to be paid off. As the Arachne was going into the Havana, she captured the Spanish polacre, Reyna, with 254 slaves on board from Africa; and during her short stay there of eight days had the vessel and slaves condemned as prize to her.

BELVIDERA, 42—7th May at Barbados.

CHAMPION, 18—11th June sailed for the West Indies.

COLUMBIA, St.V.—4th March at Barbados.

COMUS, 18—7th May at Barbados.

CRUIZER, 18—7th May at Barbados.

DEE, St.V. 4—29th April at Jamaica.

DISPATCH, 18—7th May at Barbados.

DROMEDARY—Bermuda.

FLAMER, St.V.—25th March at Barbados.

FLY, 10—At Belize. Ordered home.

FORTE, 44—29th April at Jamaica.

GANNET, 18—29th April at Port Royal.

LARNE, 18—7th May at Barbados.

MAGNIFICENT, 4—Port Royal.

PICKLE, 5—24th Feb. arrived at Jamaica from Maracaybo.

PINCHER, 5—Tender to flag-ship, 14th Feb. at Port-au-Prince.

PRESIDENT, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 19th March at Bermuda.

RACEHORSE, 18—April sailed for Para; 7th May at Barbados.

RACER, 16—31st March left for Bermuda.

RAINBOW, 28—8th April sailed for Antigua.

SAVAGE, 10—11th arrived at Trinidad, and sailed for Jamaica.

SCYLLA, 18—29th April landed Sir S. Chapman, governor of Bermuda, at New York, for the benefit of his health.

SERPENT, 16—29th April at Jamaica.

SKIPJACK, 5—30th Nov. Port Royal.

SPITFIRE, St.V.—21st Feb. arrived at Barbados.

VESTAL, 26—28th April left Jamaica for Bermuda, with the crew of the Jackdaw, Lieut. Barnet.—By a private letter from the Vestal, we regret to find that Captain Jones, and nearly every officer and man of the ship, had been more or less attacked with yellow fever. Captain Jones was sixteen days confined to his cabin, but was doing duty when the ship sailed for Bermuda. In addition to the death of the surgeon, there should be added Messrs. Doswell, Wilson, and Macfarlane, mates or midshipmen, together with Smith (quartermaster), Honey and Smith (boys), Bridges, Cooper, Joy, Butt, Burns, Winch, Peters, Cousins, (seamen), Carpenter, Morrison, Jacques, Sleverley, Gray, Corporal Bratts, (marines). Eighty supernumeraries were obliged to be put on board, to take the vessel to sea.

WASP, 18—28th April left Jamaica for Carthage.

## SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, SPARTIATE, 74.

ACTON, 28—22d March sailed from Plymouth for South America.

BASILISK—4th May left Plymouth for South America.

BLONDE, 46—2d Feb. left Valparaiso.

CHALLENGER, 28—25th March at Rio Janeiro. To return again shortly to the Pacific.

COCKATRICE, 6—Running between Rio Janeiro and Buenos Ayres.

CONWAY, 25—To leave the Pacific for Rio about July. 24th December at San Blas, Mexico.

DUBLIN, 50—Left Plymouth for Rio. To relieve the Spartiate; 17th April arrived at Madeira.

HORNET, 6—Running between Monte Video and Rio Janeiro.

NORTH STAR, 28—15th Feb., arrived at Bahia from Parnambuc.

RAPID, 10—16th Feb., left Rio for Falkland Island.

ROVER, 16—15th March left Plymouth for S. America, 29th arrived at Madeira, 3d April sailed.

SATELLITE, 18—Ordered home; 26th



October arrived at Callao from Valparaiso.

Snake, 16—10th May arrived at Spithead. Left Rio 25th March.

SPARROWHAWK, 18—Feb. and March at the Falkland Islands.

SPARTIATE, 76—25th March at Rio Janeiro.

TALBOT, 28—7th Jan. sailed from the Cape of Good Hope for India, having arrived same day from Rio.

#### TROOP SHIPS.

ATHOL, *Troop Ship*—Arrived at Plymouth 23d April from Jersey, and sailed on Wednesday for Cork, to embark troops for North America.

BUFFALO, *Store Ship*—Portsmouth, fitting. The Buffalo is to be prepared for conveyance of convicts to New South

Wales, afterwards she is to proceed to Trincomalee, and there to be appropriated for a hospital receiving ship.

JUPITER, *Troop Ship*—At Woolwich.

ROMNEY, *Troop Ship*—21st May spoken in lat. 46° N. long. 9° W.

#### STEAM VESSELS.

AFRICAN—Channel Station.

ALBAN—See Mediterranean station.

BLAZER—Running with mails between Malta and Alexandria.

COLUMBIA—See West Indies.

CARRON—Woolwich, fitting.

COMET—25th April arrived at Lisbon, passage five days. 17th May, left Lisbon with mails.

CONFIANCE, 2—Running with mails between Malta and Corfu.

DEE, 4—See North American Station.

FIREBRAND—Woolwich.

FIREFLY—See Packets.

FLAMER, 6—See West India Station.

LIGHTNING—Dublin.

MEDEA, 6—See Mediterranean Station.

MESSENGER, 1—Channel service.

METEOR—Woolwich, ordinary.

PHENIX—Woolwich. Ordinary.

PLUTO—Ordered to be in readiness at Woolwich, on the 8th inst., to convey the princess de Beira to Rotterdam, and is there to wait the arrival of the duchess of Cambridge, who is expected to embark in her for England on or about the 11th.

RHADAMANTHUS—Woolwich. Ordinary.

SALAMANDER—Woolwich. Ordinary.

SPITFIRE, 6—See West India Station.

TARTARUS—See Packets.

#### SURVEYING VESSELS AT HOME AND ABROAD.

ÆTNA, 6—Canary Islands.

BEACON—Archipelago.

BEAGLE, 10—Cts. of Patagonia & Chili.

FAIRY, 10—North Sea.

GULNARE, Hired Schooner—Gulf of St. Lawrence.

INVESTIGATOR, 16—Leith.

MASTIFF, 6—Archipelago.

RAVEN, Cutter.

THUNDER—3d March sailed for Honduras.

J. Harding, G. A. Frazer.—Coast of Ireland.

Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.

Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.

Lieutenant C. G. Robinson.—North Coast of Wales.

#### PAID OFF.

ARACHNE—29th May, Plymouth.

JUPITER—22d May, Woolwich.

NIMROD—19th May, Plymouth.

LEVERET—19th May, Plymouth.

SNAKE—Sheerness.

#### OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts.

#### APPOINTMENTS.

##### APPOINTMENTS.

ANDROMACHE, 28—Lieut. R. Gore.

BARHAM, 50—Lieut. H. Shelly;

Mates, Mr. H. J. Robins, Mr. J. Strange; College Volunteer, Mr. P. Halkett.

BLAZER, St. V.—Asst. Surg. Mr. A. Paterson.

CALEDONIA, 120—Clerk's Asst. Mr. G. Nelson; 1st Class Volunteer, Hon. R. Drummond.

CHALLENGER, 28—Act. Surg. Mr. J. A. Mould.

CHAMPION, 18—Mast. Mr. W. Parker. CLIO, 16—Mate, Mr. W. H. Solly.



COMUS, 18—*Act. Purser*, Mr. H. Niblett  
EXCELLENT, 76—*Lieut.* J. H. Ward.  
Mates, Mr. H. Bailey, Mr. J. Strange;  
Mid. Mr. Soteriades (a Greek officer.)  
FAVORITE, 18—*Master*, Mr. James  
Wemyss.

LYNX, 3—*Mid.* Mr. Phelps.  
MAGICIENNE, 24—*Capt.* G. W. St. John  
Clerk, Mr. Arlington; *Coll. Volunteers*.  
Mr. E. J. Lloyd, Mr. John J. Kennedy.  
PEARL, 20—*Master*, Mr. W. Wheeler;  
*Assist. Surgeon*, Mr. L. D. Buchanan;  
*Captain's Clerk*, Mr. H. H. Chinmo.  
PELORUS, 16—*Lieut.* H. J. Galway,  
PIQUE, 36—*Schoolmr.* Mr. R. Tucker.  
PORTLAND, 50—*Mate*, Mr. T. Denison.  
PRESIDENT, 52—*Asst. Surg.* Mr. J.  
Steill.

RINGDOVE, *Lieut.* H. M. Ellicombe.  
*Purser*, Mr. J. Herbert.  
SAPPHIRE, 28—*Mate*, Mr. G. J. H.  
Monro; *Master*, Mr. Colborne; *School-*  
*master*, Mr. John P. O. Cole.  
SAN JOSEF, 110—*Asst. Surgeons*, Mr.  
K. R. Brisk, Mr. T. Carrol.  
SPEEDY—*Mate*, Mr. H. H. N. Motley.  
TRIBUNE, 24—*Clerk*, Mr. W. Hall.  
TALAVERA, 74—*Master*, Mr. J. A.  
Douglas.  
VICTORY, 104—*Mate*, Mr. J. Stopford;  
*Assist.-Surgs.* Mr. James Stiell, Mr. G.  
G. Ballantine.  
VOLAGE, 28—*College Mate*, Mr. J.  
Paterson.  
WOLF, 18—*Mate*, Mr. H. T. Laye.

## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 381.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
166 Charles		Dundee	Perth	Not heard of	since	January.
167 Concord	Sloop	Belfast	Bangor	At sea.	June	1 drowned.
168 Madeline	Hamilton	London	Sydney	Hartwell R.		Crew saved.
169 Mary				Off Small's R.	16 May	Crew saved.
170 Monarch	Jackson	Liverpool		At sea.		
171 Lyon			N. Brnawk.	B. Fundy	19 Apr.	Crew saved.
172 Richard		Memel	Liverpool	Not heard of	since	February.
173 Robert		Bristol	Montreal	C. Breton	29 Apr.	
174 William and Son	Dewar	Cork	Liverpool	Mouse	23 May	Crew saved.

## Births.

At Portsea, the lady of Dr. King, of H.M.S. Victory, of a daughter.

At Penzance, the lady of Captain Marsh, R.N., of a son.

In Baker-street, the lady of Captain Rivett Carnac, R.N., of a daughter.

At the Hewk, near Lockerbie, Dumfries, Mrs. Capt. C. J. Hope Johnstone, relict of the late Capt. C. J. Hope Johnstone, R.N., of a son.

On the 21st June, at the house of her mother, Mrs. Howell, in Upper Harley-

street, London, the lady of Captain W. Burnaby Greene, R.N., of a still-born child.

At Raleigh House, Union-road, the lady of Captain Blanckley, R.N., of a daughter.

On the 11th of June, at Frederick Cottage, near Gosport, the lady of Lieut. David Welch, R.N., of a daughter.

At Exminster, the lady of Captain Peard, R.N., of a daughter.

At Stonehouse, the lady of Mr. T. W. M'Donald, Surgeon, R.N., of a daughter.



At Clifton, on the 11th of June, the lady of Capt. Brace, R.N., of a daughter.

On Tuesday, the 16th June, the lady of Lieut. T. Cresser, R.N., of a son.

### **Marriages.**

In London, Capt. Thomas Ross, R.N. Inspector-Commander of the Coast Guard at Malahide, to Anna Maria, second daughter of George French, Esq. K.C., of Mountjoy-square, niece of Arthur French, Esq. of French Park, county of Roscommon, and cousin of the present M.P. for that county.

At Stoke church, J. K. Martyn, Esq. Master, R. N. to Catherine, eldest daughter of Wm. Pike, Esq. of Moricestreet.

At Winthorpe, Nottinghamshire, Lieut. Whitfield, R. N. to Elizabeth, eldest daughter of the late Rev. Wm. Rastall, of Newark-upon-Trent.

At St. George's Church, Hanover-square, London, by the Rev. W. Holland, A.M., Captain Falcon, R.N., to Louisa Cursham, widow of the late Capt. Cursham, and daughter of the late Richard Meyricks, Esq. of Runkton, in the county of Sussex.

On the 16th June, at Droxford, by the Rev. T. A. G. Colpoys, Capt. Charles Parker, R.N. son of the late Admiral Sir Hyde Parker, to Kate, widow of the late Rev. Hely Hutchinson Smith, and third daughter of the late John Williams, Esq. of Elm-Grove, Southsea.

At Alverstoke, on the 15th June, Lieut. Oxenham, R.N. to Mary, only daughter of the late Mr. Peter, of Kelso, and niece to Sir John Peter, late His Majesty's Consul for the Netherlands.

On the 18th June, at Stoke Church, Lieut. F. Young, R.N. to Martha Ann, second daughter of the late Lieut. Edward Garrett, R.N. of Hambledon.

On the 23d June, at Antony, by the Rev. Vesey Hamilton, Herbert Blachford Gray, Esq. R.N. eldest grandson of Lieut.-General Blachford, to Elizabeth Maurice, second daughter of Richard Yates Cummins, Esq. Royal Engineer Department, Harwich.

### **Deaths.**

At Brighton, Sir Francis Laforey, Bart., K. C. B., Admiral of the Blue, in the 68th year of his age.

At Newport, North Devon, Com. Jacob Lawrence, R.N., aged 70.

May 4, at Over Cheshire, Valentine Stone, Esq., Lieut. R.N., and late of Kingstown, Dublin.

Latelly, at Falmouth, Mr. Richard Mitchell, Purser, R.N. (1807), aged 54.

At Haslar hospital, on 12th June, Capt. Chas. Strangways, R. N. (1827), aged 45.

At Old Town, county of Kildare, Lieut. Arthur Burgh, R.N. (1814.)

Mr. Henry Merewether Lockyer, aged 27, mate of his Majesty's late schooner Firefly, which was unfortunately wrecked on the Northern Triangles, in the Bay of Honduras, on the 27th of February last.

At Brighton, on the 8th instant, Dr. James Weir, Assistant Inspector of Hospitals.

At Malta, Theodore, second son of the late Captain Sir Wm. Hoste, Bart, R.N., and Midship. of H.M.S. Volage.

On the 14th inst. Lieut. Cecil Tufton Phelps, R.N., second son of the late Col. Phelps, of Coston, Leicestershire.

On the 31st January, at Callao, Lieut. W. Russell Drummond, of his Majesty's ship Satellite, in the 23d year of his age.

At Lugton, on the 4th inst., Robert Dundas, third son of Capt. Tait, R.N., of H. M. S. Spartiate.

On the 1st of April, at Jamaica, Mr. George Williams, Surgeon of H. M. S. Vestal.

At Salisbury, on the 15th June, Mr. Thomas Titerton, Purser, R.N. (1794), aged 74.

At Sierra Leone, on the 13th of Feb. after fifteen days' illness, in the 22d year of his age, Mr. Judd, Midshipman of H.M.S. Pelorus, eldest son of Capt. Judd, R.N., of Woodside, Plymouth.

On the 2d June, in Addison-road, the Hon. Geo. Barrington, Capt. R.N., aged 40 years, second son of the late, and brother to the present, Viscount Barrington.

In Boon's Place, of decline, in the prime of life, Lieut. W. S. Arthur, R.N., only son of Mrs. Arthur, widow.

Near Liverpool, Lt. John Philips, R.N. At Bambrough, Mr. W. H. Sandwich, Purser, R.N. (1800), aged 62.

At Plymouth, Mr. John Watson, Purser, R.N. (1808), aged 63.

By the upsetting of a boat in the Mediterranean, Mr. A. H. Gimbar, Assistant-Surgeon of H.M.S. Caledonia.



## FALMOUTH, 20TH JUNE.

## LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
PANTALOON .....	Lt. Com. N. Cory .....	22 May	7 June	Lisbon....	19 June.
NAUTILUS .....	Lt. Com. W. Crooke....	1 June	_____	_____	29 June.
NETLEY .....	Lt. Com. Wright .....	6 June	_____	_____	4 July.
SCORPION .....	Lt. Com. N. Robilliard ..	15 June	_____	_____	13 July.
ESPOIR .....	Lt. Com. C. Riley .....	19 June	_____	_____	17 July.
PIKE .....	Lt. Com. A. Brooking..	19 June	_____	_____	17 July.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days; sails 1st of every Month.—Route—*Gibraltar, Malta, Greece, Corfu, Egypt, and India*, and thence returns in the same rotation.

FIREFLY .....	Lt. Com. R. Baldock ..	8 May	_____	_____	30 June.
AFRICAN .....	Lt. Com. J. West .....	3 June	_____	_____	26 July.

NORTH AMERICA—9 weeks: sails 1st Wednesday every Month.—Route—*To Halifax and back to Falmouth*.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

CAMDEN .....	Lt. Com. J. Tilley ....	9 May	_____	_____	11 July.
TYRIAN .....	Lt. Com. E. Jennings ..	6 June	_____	_____	8 Aug.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 1st of every Month.—Takes La Guayra Mail.

NIGHTINGALE..	Lt. Com. G. B. Portescue	5 April	_____	_____	28 June.
MUTINE .....	Lt. Com. R. Pawle ....	3 May	_____	_____	26 July.
SHELDRAKE ..	Lt. Com. A. R. Passingham	3 June	_____	_____	26 Aug.

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—*Crooked Island, Havana, Vera Cruz, Tampico, Vera Cruz, Havana, Falmouth*.

ECLIPSE .....	Lt. Com. W. Forester ..	18 Feb.	_____	Havana	8 July.
LYRA .....	Lieut. Com. J. St. John	19 March	_____	_____	6 August.
FLOVER .....	Lt. Com. W. Downey ..	17 April	_____	_____	4 Septem.
PANDORA .....	Lt. Com. W. P. Croke ..	18 May	_____	_____	4 October.
REINDER .....	Lt. Com. H. P. Dicken..	17 June	_____	_____	4 Nov.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 15th of every Month.—Takes Cartagena Mail.

SPEY .....	Lt. Com. R. B. James..	17 April	_____	_____	10 July.
RENAUD .....	Lt. Com. G. B. Dunsford	18 May	_____	_____	10 Aug.
SEAGULL .....	Lt. Com. R. Parsons ..	17 June	_____	_____	9 Sept.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks: sails 1st Tuesday every Month.—Route—January to August inclusive; to *Madeira, Teneriffe, Rio de Janeiro, Bahia, Pernambuco, and Falmouth*.—September to December inclusive: to *Madeira, Teneriffe, Pernambuco, Bahia, Rio de Janeiro, and Falmouth*.

PIGEON .....	Lieut. Com. J. Binney..	6 Feb.	16 Mar.	Rio	26 June.
LAPWING .....	Lt. Com. G. B. Forester ..	14 Mar.	31 Mar.	Madeira	2 August.
SKYLARK .....	Lt. Com. C. P. Ladd....	11 April	19 April	Madeira	29 August.
MELVILLE .....	Lt. Com. C. Webbe ....	9 May	_____	_____	26 Sept.
OPOSSUM .....	Lt. Com. H. Peters ....	5 June	_____	_____	23 Oct.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

BRISBIS—Lieut. Com. J. Downey, 30th May, arrived from Leeward Islands.

DUKE OF YORK—Lieut. Com. W. James, 8th May arrived from Halifax.

GOLDFINCH—Lieut. Com. E. Collier, 12th May arrived from Brasils.

PELHAM—Lieut. Com. W. Lealle, 9th April arrived from Mexico.

STANMER—Lieut. Com. R. Sutton, 9th June arrived from Halifax.

SWALLOW—Lieut. Com. S. Griffith, 9th June arrived from Jamaica.



METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.

MAY, 1835.

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	F.	29.64	29.65	50	53	42	54	S.W.	S.W.	3	3	O.	O.
2	S.	29.64	29.62	56	55	41	58	S.W.	S.W.	4	5	B.c.	Qphr. (3
3	Su.	29.75	29.81	48	51	42	52	N.W.	N.W.	3	3	O.	Od 4)
4	M.	29.86	29.90	51	53	41	53	N.W.	N.W.	4	5	Bc.	O.
5	Tu.	30.11	30.08	53	57	42	59	N.W.	S.W.	3	3	O.	O.
6	W.	29.85	29.81	54	59	48	61	S.W.	S.W.	2	4	Op (2)	Bc.
7	Th.	29.95	30.01	55	57	44	58	W.	N.W.	3	5	O.	O.
8	F.	30.08	30.08	56	64	42	66	S.W.	S.W.	3	3	O.	O.
9	S.	29.98	29.92	62	67	52	68	S.W.	S.W.	4	7	Bc.	Oq.
10	Su.	29.82	29.80	58	62	48	63	S.W.	S.W.	6	6	Qbc.	Qbcp. 4)
11	M.	29.96	29.96	54	59	44	61	W.	S.W.	6	6	Bc.	Qb'cp. 4)
12	Tu.	29.82	29.74	55	60	48	62	W.	W.	4	5	O.	Or 3) (4
13	W.	29.61	29.26	53	59	49	60	W.	W.	5	3	O.	Bcr. (4)
14	Th.	29.52	29.56	49	52	44	52	N.E.	N.E.	3	3	Or (1) (2)	Or. (3) (4)
15	F.	29.73	29.72	52	54	43	58	S.	S.W.	3	4	Bcp. (2)	Bcthr. (3)
16	S.	29.78	29.82	54	60	45	61	W.	S.W.	4	5	Bcp. (2)	Qbc.
17	Su.	29.99	29.97	56	62	44	64	S.	S.E.	4	2	B.	B.
18	M.	29.90	29.89	62	70	45	71	S.E.	S.E.	2	2	B.	Bc.
19	Tu.	29.86	29.85	61	65	50	66	E.	E.	5	5	Bc.	Bc.
20	W.	29.96	29.99	58	64	49	65	E.	N.E.	2	3	O.	Or. (4)
21	Th.	30.21	30.19	53	59	48	60	N.	N.	3	3	B.	Bc.
22	F.	30.16	30.11	54	63	44	64	N.	N.	1	2	Bcm.	Or. (4)
23	S.	30.10	30.12	55	65	52	66	N.	S.W.	2	2	Bcm.	Bcm.
24	Su.	30.14	30.10	62	68	54	70	S.W.	S.W.	2	2	Bcm.	Bc.
25	M.	29.88	29.76	59	63	53	64	S.W.	S.W.	4	7	Bc.	Qbcp. (4
26	Tu.	29.53	29.45	54	58	46	58	S.W.	S.W.	3	3	Or. (2)	Or. (3)
27	W.	29.72	29.74	58	57	54	60	S.W.	N.	2	3	Bc.	Ttr (3)
28	Th.	29.96	29.97	53	58	41	59	E.	E.	3	3	P. (2)	O.
29	F.	30.07	30.06	52	58	40	58	N.E.	N.E.	4	5	Qbc.	Qbc.
30	S.	30.08	30.04	51	54	38	53	N.E.	N.E.	6	7	Qbc.	Qbc.
31	Su.	30.00	29.96	53	59	41	59	N.W.	N.W.	2	3	Bcm.	Odr. 3)

APRIL—Mean height of Barometer=29.886 inches; Mean Temperature=53.2 degrees;  
Depth of Rain fallen=2.76 inches.

Abbreviations used in the columns "Weather," and "Strength of Wind."

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hail.
6 Strong Breeze.	i Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	p Passing temporary showers.
10 Whole Gale.	q Squally.
11 Storm.	r Rain—continued rain.
12 Hurricane.	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	. Under any letter indicates an extraordinary degree.

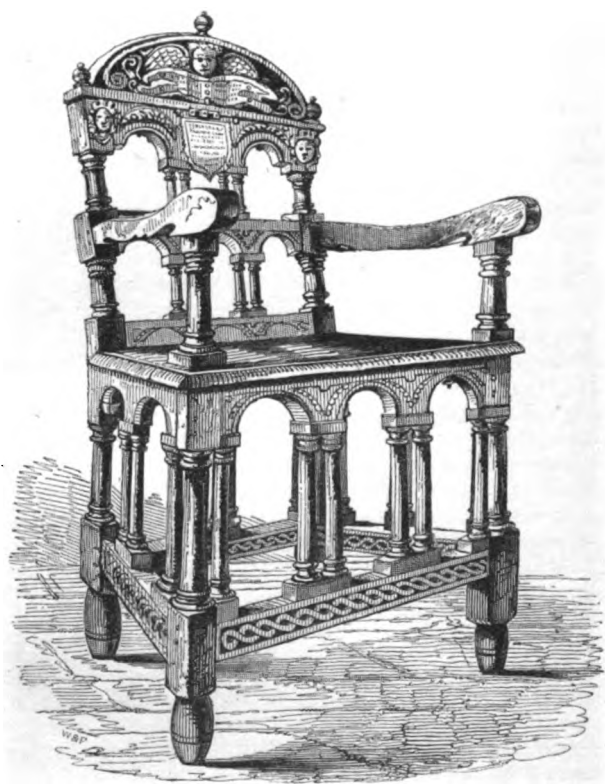
The Figures in the Weather Column.—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.









*Sir Francis Drake's Chair.*



## ORIGINAL PAPERS.

AUGUST, 1835.

OBSERVATIONS ON KING GEORGE'S SOUND; *the Navigation of the South Coast of Australia, and the Winds and Weather there: shewing that a passage may be made along it to the westward in the winter season, without experiencing the difficulties usually apprehended.* By Capt R. D. Middleton.

KING GEORGE'S SOUND having become settled as part of Western Australia, and further settlements being probable on the south coast, a few remarks thereon may be useful, as it is but little known, and may probably be much frequented before any good surveys are undertaken, much less completed: Captain King's visit to this coast being, I think, during summer; whereas my observations, as to the weather, &c., apply to the depth of winter.

The surveys of this coast,\* so far as they have gone, have been quite partial; and there is, indeed, no chart of the south coast, properly speaking. The only guide I had was a sort of map, published in England for the use of the colonists, which conveyed a tolerable idea of the coast, from Cape Leuwen to King George's Sound, and a pretty good chart of this Sound (from "Flinders.") To make this Sound, unless you are very certain of your longitude, it will be prudent to get near the land, well to the westward of Eclipse Islands, so as to open them off the land; unless you do this, they are not to be made out, from which circumstance, it might be presumed, they have derived their name. You may pass on either side of these islands, but, until they are better surveyed, perhaps outside is to be recommended; and then, if the wind is west, haul up towards Bald Head, for which, however, you cannot shape a direct course in the first instance; "Vancouver's Breakers," as they are termed in the chart alluded to, being in the way. These "breakers," however, are now converted into a rock, well above water, which alteration may probably have taken place since the days of the navigator whose name they bear, by supposing it to be a coral formation, grown up above water, of later date. The breakers round this danger will be a sufficient guide as to how near you may pass it; then haul up as close as possible towards Bald Head, which you may pass within a ship's length, if you please. The danger marked, in the chart alluded to, as "Maude's Reef," if it exists at all, is not where the chart shews it. I passed to the south of Eclipse Islands, and steered about three miles E. a little southerly, to avoid this danger; and the consequence was, I could not fetch into the Sound; and I found afterwards, that it was unne-

\* Capt. Middleton could not have seen the Admiralty Charts (by Flinders) of this coast. As general charts, and on a large scale, they are the best extant.



cessary. There is, however, some reason to suppose that such a reef does exist, though in a different situation; the surveyor-general at Swan river (Lieut. Roe, R. N., who himself saw what he described,) having told me that he has reason to believe there might be some danger about six miles E. S. E. from Eclipse Islands.

It is as well here to mention, that sir James Stirling, with a party of explorers, who went some distance along the coast (on shore), saw, due S. three or four miles from Cape Howe, an appearance of breakers: we passed, however, near this spot on going to the Sound, and saw no danger; in returning (sir James on board) it was night, and we, of course, gave the situation a berth.

If your approach to King George's Sound should be during bad weather, (which only occurs with the westerly gales,) the utmost precaution should be taken to prevent being blown off, by making the ship as snug as possible, and by reducing sail, as you haul up, to close reefs. As it blows, during such weather, right out of the Sound, with a violence often exceeding the south-easters in Table Bay, and even during summer, sir Richard Spencer (a naval officer, and the government resident there,) told me that the *sea breezes* usually blew with considerable strength in the Sound, *in the afternoon*, directly out; but the water being smooth, there being no hidden danger, and plenty of room, it must be a very unhandy ship that will not work in. This will be best done in the south channel, as being the weathermost; for though I have said the wind blows directly out, it has generally a tendency to some southing (the Sound lying W. and E.); therefore, if a ship enters close round Bald Head, the least start will enable her to fetch within Brick Sea Island, where she may anchor any where in good holding ground, and eight to twelve fathoms water. I went in by the north channel, because I could not fetch the southern one; the weather was very fine, (the 19th June); and I anchored for the night, under Michaelmas Island, bearing south-west, in 20 fathoms. If, however, you have day-light, you should work right up to the entrance of Princess Royal Harbour; and anchor with it open, and near to it: nothing but a cutter can attempt to work through this passage with any prudence; there is from  $4\frac{1}{2}$  to seven fathoms in it; but its width is in one part confined by rocks (under water) to not more than two cables' length. Warping buoys should be placed in this channel, otherwise it will be the means of a good deal of very vexatious detention; as few ships have the necessary gear and boats, to effect such an operation as would be here necessary. A harbour master is appointed here, a good practical naval lieutenant, who will come off before a ship reaches this channel; and will, I think, give the same advice I am doing. I, however, conducted the James Pattison to her anchorage in Princess Royal harbour, (and out again): but I had a fair wind, and fine weather, and it was from necessity, not choice; and it



should not be attempted by a stranger, except from the same cause. Nothing can be finer or safer than this harbour; you should moor immediately, the anchors N. W. and S. E. and nothing can hurt you.

My observation of the weather, whilst lying in King George's Sound, coupled with *some facts*, and what I had the opportunity of hearing from others, leads me to offer a few remarks, which may perhaps tend to establish the opinion I have often heard given in New South Wales, (though the general impression is quite on the other side,) that a passage may be made from Bass' Straits, or Van Diemen Land, to the W. round Cape Luewen, during the winter months, without experiencing that difficulty which is usually supposed to accompany such an attempt. First, *the facts*. A few days before I arrived at King George's Sound, a colonial brig from Hobart Town arrived there in nineteen days; this was in June, in which month also arrived *an open whale-boat*, that had come alongshore from the E. (employed sealing): in July arrived from Launceston a *small dandy-rigged craft*, not, I believe, above 20 tons, in 39 days. I think she had touched at Kangaroo Island, which prolonged her voyage. The head of the gang of sealers was an extraordinary enterprising, clever fellow; and whose opinions about the coast, I placed great reliance upon: he had been, according to his own account, 14 or 15 years employed upon it, in this singular manner, quite independent of every thing and every body, but his own and his colleagues' exertions: they some time ago lost their boat, and built the one they now had, according to their account, upon one of the islands of Kent's Group, in Bass Straits and a fine model she is. This man told me, that during the winter season, they had *more fine days and E. winds* than the reverse. They went to sea again in July; it was said, to the westward: indeed, they talked of going round Cape Luewen as a matter of no difficulty; they had, in fact, been on the west coast, if their own account was to be credited, and I saw no motive they could have in stating that which was not true. On the 12th August I sailed, to proceed round Cape Luewen, with a "spirt" of E. wind, which carried me about two-thirds the distance (to the cape), when a W. breeze came on, which, though it put us under close-reefed topsails and reefed courses, veered about so favourably as to enable me to make good slants; and I was at Swan river a week after leaving King George's Sound.

These *facts* led me to endeavour to satisfy myself that such were not merely accidental occurrences, and that the opinion of the master of the sealing-boat, taken with them, might be satisfactorily accounted for from natural causes.

It has been the impression of every one, I believe, who has made the passage from the W. towards Bass Straits, or Van



Diemen Land, (myself included,) that an almost uninterrupted west gale prevailed along the south coast of Australia; judging, from such being the case at that distance to the south at which these passages are usually made.

That these westerly winds do blow on the coast, I had abundant reason to be convinced of, as I lay in King George's Sound, wind bound with a series of heavy gales from this quarter; which, with intervals of moderate weather, and occasionally considerable variations in their direction, lasted what I believe was a very unusual time, but sufficiently accounted for from the perhaps almost as unusual duration of the fine weather existing just previous: in fact, there was not, for three weeks, that great change, which I shall show occurs nearly always after these westerly gales: however, although the weather never so far changed as to induce me to sail, yet there were considerable intervals of such fine weather as allowed parties to go away in the boats for a day, or two, or three, together; and the veerings in the direction of the wind were 2, 3, and even 4 points of the compass, on both sides of W. so that, a ship would have been continually making slants: but this weather occurred in the very depth of the worst part of winter, in months which, as respects the sun, are synonymous with our end of January and beginning of February; and, as I have already said, I have reason to believe that the duration of this bad weather was an unusual occurrence. The usual course of these gales is, however, no doubt, from two to three days; and they are, unquestionably, occasionally very violent, and accompanied *on shore* with deluges of rain. The wind blows, at intervals of different length, *right round the compass* (with the sun): in the finest weather, it is at S. E. to E. or E. N. E.; and at these points, with the most beautiful weather that can be conceived, I had it for the last ten days of June, and about eight or ten in July. When such weather as this dries and heats it, and sufficiently rarefies the air, the wind will regularly veer round by the N. the weather become cloudy, and as it draws round to N. W. and reaching W. it begins to blow with violence: the appearances are tempestuous and threatening, and, as I have above stated, this gale will last two to three days veering to S. W. where it will speedily get to the S. and end in the fine weather above described, with the wind at S. E.: if the barometer does not rise, and the wind *backs*, it is a resumption of the gale; but this is not usual.

This is the regular routine of the winter weather, and consists, I am satisfied, (with the sealer,) in a greater number of fine days than bad. That part of the above statement which consists of theory, or opinion, may be borne out by the following reasoning, which, I think, may be considered sufficiently conclusive to establish—that what is stated of the weather must be the natural results of the climate, nature of the country, and localities.



The country, unlike New South Wales, is abundantly supplied with waters from the heights about King George's Sound: numerous and very considerable lakes are to be seen; there is a great deal of boggy soil, consisting of a peat earth, covered with a kind of rush, which retains a very considerable quantity of moisture: the winds from the sea, bringing a great quantity of clouds, the supply of this water is kept up; and the consequence is, a degree of temperature produced, that speedily removes the first cause of these west gales—the high previous rarefaction of the air on shore: *this I take to be the cause of the short duration of these gales.* The sun has here considerable power, and, the bad weather once over, clouds do not interfere with his operations; but the above-described nature of the country, together with its being very mountainous, requires it to be acted upon a much greater length of time, in drying and heating its soil, and producing the necessary rarefaction of the air, to induce another gale from the sea, than the time which was requisite to change this rarefaction by the previous gale: *and this is the reason for there being more fine weather and land winds than the contrary.*

It must be further kept in view, that South Australia is in about the finest parallel of latitude on the globe; and it is, I consider, unquestionably the best climate, and most conducive to an Englishman's health, habits, and enjoyments, of any I was ever in. The extreme purity of the air is probably to be traced to that constant succession of varying winds, which its peculiar situation causes to be continually taking a turn round the compass, as I have described; and which *fact* is, perhaps, owing to the distance the ice extends from the South Pole; causing a most rapid change, in a short distance, (to the S.); indeed, the difference of atmosphere here, in a certain distance, is, on a *fine day on shore*, perhaps greater than in any other part of the world.

The foregoing theory would lead us to look for the most violent gales coming from the S.; and no doubt that would be the case, other causes not interfering; but the almost constant westerly winds which prevail, in both hemispheres, beyond 30 degrees of latitude, or where the trade-winds cease, and which in the higher southern latitudes are known, (with occasional interruptions, of a turn round the compass, effected in two or three days,) to continue completely round the globe—no doubt, give these *sea breezes* on the southern coast of Australia a S.W. and W. direction. Other causes than this need not be searched for, or they might be found in localities, to account for the *fact*, that the wind is seldom or never known to blow from S. with any force, the gale abating considerably in violence before it reaches that point of its rotary progress.

Therefore there seems to be no reason why a ship should not make this passage to the westward at all seasons, by keeping



along shore, and standing off when the westerly breezes come on; she will be able to tack most probably the next day, and make a fine start as the wind draws to the southward, which will end, as I have said, in a fair wind and fine weather, during which she should edge in with the land, to be prepared for its further progress round the compass.

I must add here, the great use, indeed the entire dependence, that may be placed upon the "barometer" on this coast: the very marked indications of which here, are probably to be traced to that great difference of the atmosphere, in a given distance, to which I have alluded. I will venture to assert, *that it will never prove fallacious in this neighbourhood*; its extensive variation, between the fine and bad weather above described, was 30. 6, to 29. 2, inches; and it appears to me, that the greater activity, as it were, which is always prevailing in the atmosphere in high S. latitudes, caused by the nearer presence of ice (by 10 degrees) to the sun—than is the case in the other hemisphere—is a solution of what has long been a problem with me, viz. why the barometer should be so much more active and efficient in S. than in N. latitudes, which it certainly is.

Point Wakefield, in Princess Royal Harbour, is, according to the chart I have referred to in  $35^{\circ} 2' 5''$  S. and  $117^{\circ} 53' 10''$  E. This longitude, I have reason to believe, is correct; from five good chronometers, rated at Cape Town as in longitude  $18^{\circ} 21'$  E. and again being rated, before sailing; agreed with the next known meridian, (if, indeed, it can be said to have yet been exactly ascertained,) Swan river. On leaving this place, for India, having experienced one of the heavy gales of this *W. coast* just as I got under way, I will describe *its* course; which was exactly what Sir James Stirling had given me reason to expect it would be.

It began at about N. N. E. a little after sunset, as I was working to the N. to get past Rottenest Island. The barometer had indicated this gale for two or three days previously. The night was clear and beautiful as any thing can be imagined, the wind increasing in the most gradual manner, carrying top-gallant sails to it all night. Towards sun-rise, it veered to N.N.W. and the threatening aspect of the heavens was then most awful: at eight, it was N.W. and put us under close-reefed topsails, which were carried on to get clear of the land. At noon, probably 30 miles W. of Rottenest, and as far south. About 4 p.m.; the wind having veered to S.W. put the ship's head to the N.W. reefed the courses, and made all as snug as possible, to get to windward; and carried this sail through the squalls, which were exceedingly heavy for that night and the following, with the intermediate day: during all which, it blew a heavy gale; the day after, however, about noon, it moderated (veering S.) and that so speedily, that we had studding sails set on both sides before night, and *were in the S.E. trade*.



When it is considered that Swan river is just *upon the very verge of this trade-wind*, it will, upon consideration of causes and effects, be readily comprehended why any gale, such as I have described, arising from localities belonging to this great continent, must end as I have stated this to have done, and merge in the S. E. trade. And I will add, that it is very fortunate there is this controlling cause at hand, to draw the wind off shore; otherwise, it would be most dangerous to be caught in such gales near the land.

Some notice ought to be taken of tides, currents, and variation of the compass. Respecting the latter, I paid no attention to it; but allowed what was understood to be the amount,  $\frac{1}{4}^{\circ}$  W. The tides in the *sound* are not of sufficient importance to be noticed; they never had any influence upon the ship at anchor, for three weeks: but in the *harbours* there is a rise and fall, subject to great irregularity both as to time and degree, but I think it never amounts to five feet, and rarely half that: its velocity also, as will be apparent by inspecting the chart, must amount to something considerable in the narrow passages leading into *Princess Royal and Oyster Harbours*; but this subject will require a considerable time to attend to, to pretend to give any information upon it. There is, however, a common notion entertained there, that a high tide is a *strong indication of the wind coming from the eastward*. These tides I observed to occur after the westerly gales had ceased, and the weather become fine; which would, agreeable to the usual course, as described in these remarks, be followed by E. winds; and which is only worth noticing here, as I think it a proof of the currents outside being just such as might be anticipated. A common notion exists, that a current on the S. coast runs continually to the E.—I consider that the W. and S.W. gales of course impels the water in that direction; but as I can see no outlet whereby this water can be said to escape, I take it for granted that, upon the cause ceasing, the water returns, and that during the fine weather there is a current as certainly running alongshore *to the W*; and I think that this high tide, as observed in *Princess Royal Harbour* just where it is, is a proof of such being the case.

R. D. MIDDLETON.

*Commander of the James Pattison.*

[We acknowledge, with pleasure, our obligation to Captain Middleton, for these remarks; and we are quite sure that they will be appreciated by those seamen who are desirous of good information on the coast to which he alludes.—ED.]



## LIGHT AT THE POINT OF AIR, RIVER DEE.

“Trinity-House, London, 25th June, 1835.

“It having been found advisable to adopt measures for the purpose of rendering the Low Light, exhibited near the base of the tower of the light-house at the Point of Air, distinguishable from all other lights in that vicinity :—

“Notice is hereby given,—that from and after the 9th day of July next, a light, coloured *red*, will be exhibited, instead of the present white light, and will be visible in the Welch Channel, as heretofore, southward of the West Hoyle Sand.

“By Order, J. HERBERT, Secretary.”

DIRECTIONS FOR APPALACHICOLA BAY. *By Captain Joseph Cornforth, of the brig Harbinger, of Newcastle-on-Tyne.*

FROM Cape St. Antonio, or the Dry Tortugas, steer for the middle of St. George's Island. The soundings will be regular as you approach the land, which is extremely low all about, and they will shoal gradually. The above course will take you to the eastward of St. George's Reef, extending eight miles from the south point of St. George's Island. The soundings near the west edge of this reef are very irregular, and not to be depended upon. By running along the island you will meet the reef, and by keeping your lead going it will carry you outside; for, should you fall to the westward, and make Cape St. Blas, or to the westward of it, and a south-west wind come on, and blow hard, you are then between the two reefs, and the current setting along St. Blas Reef, and winding into Appalachicola Bay, you will find some difficulty in keeping to windward; but by being to the eastward of St. George's you will have the current setting to the southward and westward, towards the gulf, and further to the eastward the stronger you will feel it going to windward.

When I was bound to Appalachicola on my last voyage, I made Cape St. Blas, in consequence of the chart being wrong. Although the water was smooth and the breeze fresh, it took me from 4 P.M. till 4 A.M. next morning to double the reef. At 3 A.M. next morning, we found our soundings vary from three fathoms to seven, then a quarter less three, then five, and so on the whole of the time. The lighthouse is on the west end of St. George's Island; which situation renders it of no use coming from the eastward, as a land-mark, until you open it to the westward of St. George's, which is one of my reasons for recommending the island to be steered for about midway. At the West Pass there is a pilot-cutter attends, and it is intended to have one at the East Pass, between Dog Island and George's Island; also a light; which



is the only channel for large ships, having fifteen to sixteen feet in the channel at low-water, and no bar.

The bar at the West Pass is about sixty feet broad, and of hard sand. I touched once very lightly going in, drawing twelve feet and a half water; also the same in coming out again.

Ships going in at the East Pass can get up to about twelve or thirteen miles of the town, to load. The bay inside is perfectly safe, and will hold a large fleet of ships; the ground good and soft—an excellent place for a rendezvous for cruizers. Vessels bound for the West Pass ought not to draw more than twelve feet; for, when over the bar, if you are to load in the bay, very little more can be found; in fact, I laid aground nearly the whole of our time: the ground soft, and vast numbers of oyster-beds all along shore.

The latitude of St. George's lighthouse by meridian altitude I made  $29^{\circ} 37' N.$  with artificial horizon, and longitude  $84^{\circ} 53' W.$  by lunars. Inside, at the anchorage for loading at, our longitude by means of several lunars ☉ and ☾ it was  $84^{\circ} 45' 45'' W.$ , and latitude  $29^{\circ} 41' 33'' N.$ ; and when at anchor near the bar, the latitude was  $29^{\circ} 34' N.$  and long.  $84^{\circ} 51' W.$  The tide rises about two feet, but so irregularly sometimes, that there is only one high-water in thirty-six hours. The tides are here very much affected by the winds.

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#### SIR FRANCIS DRAKE'S CHAIR.

AFTER Sir Francis Drake's return from his voyage round the world, he brought his ship to Deptford, where he had the honour of entertaining queen Elizabeth on board it. The vessel was laid up for years in that place, and was the object of curiosity to many, who went there on purpose to visit it. When the timbers, in the course of time, became decayed, John Davis, esq. selected some of the planks, out of which he had a chair constructed.\* Pepys in his "Diary"† speaks of this gentleman, for, in mentioning a visit to Deptford, (July 2, 1662,) he says, "We went into the storehouse, and viewed first the provisions there, and then his books (but Mr. Davis himself was not there.)" It is probable that he kept this piece of furniture for a certain time in his own possession, for we find in Cowley's works an ode which he describes as written while "sitting and drinking in the chair made out of the reliques of Sir Francis Drake's ship." Mr. Davis, however, gave it afterwards to the university of Oxford, and it is still preserved in the picture-gallery belonging to the Bodleian library. Several prints have been published of it; but as we have met with none that gives a sufficiently accurate representation of this interesting piece of

\* Prince's Worthies of Devon, p. 240-1.

† Pepys's Memoirs, vol. I. p. 285.



antiquity, we have had a new drawing taken, from which the annexed engraving was copied.

The oak, from which the chair was made, has become black from age; the form and ornamental parts, which are cut in relief, will be better understood from the representation than from any written description: it will only be necessary, therefore, to give the inscriptions. These have been cut on plates of steel, which is now beginning to be corroded by exposure to the air, so that the lines are in some parts nearly lost; it seems, therefore, the more desirable to preserve a record of them while the writing can yet in general be made out.

On the top of the back, under the head of the cherub, is a plate with the following inscription—

<p>Tella Ex Reliquiis tabulatorum Navis Dracæ Fabricata Et a Joanne Davisio Deptfordiensi Arm<sup>o</sup> Navalium armamentorum Custode Regio Bibliothecæ Oxoniensi dedicata 1662.</p>	<p>{ INSCRIP. }</p>	<p>Auxilio Divino F. Drake Equitis Aurati Sic Parvis Magna J.D. Fideus &amp; securus.†</p>
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Against the name of Drake and the initials J. D. their coats of arms were added, but these are now nearly obliterated: and at the extreme lower angle of the scroll there is written "H. Peirse scul."

In the centre of the back of the chair is a steel plate, in the form of an heraldic shield, which hangs from a swivel, so that it may be turned for the convenience of the reader. On one side of it is inscribed—

Orbe pererrato, Solarisq. æmula Currus  
Quem valuit totum noscere digna Polo  
Eligit hunc Portum sapiens, rerumque perita,  
Formam induta novam Pythagoræa ratis.  
Non poterat meritis tribui Navisque Dracique  
Nobilius pretium nobiliorve Locus:  
Nam sedet æterna compositus uterque Quiete  
Et Dracus in Cælo, Navis et Oxonii.

A. COWLEY  
1662.

On the reverse of the plate are the same sentiments expressed in English.

To this great Ship which round the Globe has run  
And matcht in Race the Chariot of the Sun,  
This Pythagorean ship (for it may claime  
Without presumption so deserv'd a Name  
By knowledge once, and transformation now)  
In her new shape this sacred Port allow.  
Drake and his ship could not have wisht from Fate  
A more blest Station or more blest Estate.  
For, Lo! a seat of Endles Rest is giv'n,  
To her in Oxford, & to him in Heav'n.

A. COWLEY  
1662.

† This, which appears to be the motto of Mr. Davis's arms, is hardly legible, especially the last word.



These verses appear separately in the collections of Cowley's Latin and English Poems, but without any distinct notice of the particular purpose to which they have been applied.

Sir Francis Drake's ships were the following:—The Pelican, commanded by himself; the Elizabeth, Marygold, Swan, and Christopher. He sailed from Plymouth on the 15th Nov. 1577, and was driven by adverse winds into Falmouth, which place he left on the 13th December following, and returned to Plymouth on the 3d of November, 1580. This voyage obtained great celebrity on several accounts. Drake was the first commander who had successfully sailed round the world, and brought his ships home, although Magellan's ship, the Victory, arrived at Seville in Sept. 1522, after his death at the Philippine Islands. It is remarkable, that Magellan had also sailed with five ships, and the Victory on her return became the subject of as much curiosity as the Pelican after her. Nor was the aid of poetry, Spanish, Portuguese, and Latin, wanting on the occasion, from among which we have selected the following lines, by Lopez:—

“Oceanum reserans navis Victoria totum  
Hispanum Imperio clausit utroque polo.”

Various Spanish authors, besides M. Bougainville, have asserted that she was preserved at Seville until she fell to pieces; but Oviedo, an historian more exact and worthy of confidence in these minute particulars, testifies that, “After her return, the Victory made a voyage from Spain to the island of St. Domingo, and returned to Seville, from whence she made another voyage to the island, and returning was lost, no account being heard of her afterwards.”—*Oviedo, Libro de los infortunios y naufragios, &c.* cap. 1, fol. 163. Thus, not only was one of our own countrymen the first successful commander who had circumnavigated the globe, but his ship was preserved as long as she could float. Sir Francis Drake received the honour of knighthood from Queen Elizabeth on the occasion of her visit to his ship at Deptford.

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#### ON THE PADDLE-WHEELS OF STEAM BOATS.

SIR,—We are glad to find that “Steam Navigation” has been taken up as a subject for discussion in your valuable Magazine, as it is by such means alone that we are likely to arrive at just conclusions on such points as are yet undecided. The paddle-wheel has, in your two last numbers, been selected as the object of animadversion; and certainly therein we are far from perfection. As this is still a subject for theory, it is to be hoped that correspondents will not be deterred from offering their ideas upon the subject, through fear of illiberal criticism; for it is not always the



man who, having made a particular branch of science his professional study, that is alone capable of suggesting improvements, as we could shew in numerous instances; they are oftentimes accomplished by accident, or arise out of discussion. These observations are applicable to the proposition of your correspondent Philo, for reefing the paddles, &c. who very justly remarks on the wilful blindness of commanders of vessels (he need not have particularized "steamers") to the imperfections of their craft; unless, as is the case in the royal navy, official reports are required from them by the Admiralty board.

The data on which Mr. Barlow's observations are founded, and to which he refers, though tolerably correct as far as they extend, (one mile of the river Thames,) would lead to erroneous conclusions, if acted upon alone; for this we will venture to assert, *that after the superintendent has left the steamer, we have never found her to go so fast as his report affirmed.* But the river is not the place of trial for a sea-going "steamer;" her build is (or should be) quite different from that of the Margate passage boats. The only just estimate of her performance is to be deduced from the report of her commander and chief engineer, after her return, for instance, from crossing the Bay of Biscay to and from Lisbon; which report should contain under its separate head, tonnage of vessel, coals on board, power of engines, number of revolutions per minute, (with an annotation of the change of weather,) direction of the wind, and sails set, stores on board, and draft of water forward and aft at leaving port and on arrival, prior to replenishing coals, daily expenditure of coals, what kind, and whether quick or slow burning quality, diameter of wheels, and whether Morgan's or the common paddles, &c. With such data, the man of science will, indeed, be assisted in his endeavours at improvement.

But, sir, to the point in question, "reefing the paddles:" this, though not of frequent practice, is nothing new; but its impracticability during bad weather is a sufficient reason for its disuse. The practice, when a steamer is deep-laden with coals might certainly be had recourse to, but the unscrewing and refastening the bolts tend so greatly to loosen them, and render them insecure, that an officer would not feel himself justified in adopting it, lest in any emergency the agency of the paddles fails him, from having dropt off, or been detached by the buffeting of the waves, &c. The vertically-acting paddles we conceive applicable to the river steamer, but doubt much their adequacy in point of strength to contend against the heavy seas we encounter when crossing the ocean. We are, however, decidedly of opinion, with Philo, that great advantages would be obtained by "reefing the paddles," and see no very great difficulty in accomplishing this desideratum in the "old common wheel;" but the improved wheels of Mr. Morgan's being furnished with radius-rods, will not, we imagine,



admit of any alteration in the position which he gives his paddles, consequently are incapable of being reefed.

We would here remark, that Mr. Morgan's wheels have a much superior advantage over the common wheels, when the vessel is over-deep, or steaming off a lee-shore, in a strong head wind, with a heavy sea, than they have when the vessel is light, or steaming in smooth water, consequently, for river work their superiority is not adequate to the extra cost; but your correspondent Hiram should make experiments in the Bay of Biscay, with strong winds and a heavy sea to contend against, and then we are very much mistaken if the result does not convince him, that a very much greater benefit does arise from the application of Morgan's wheels than he appears to have given them. Take, for example, the Spitfire and Firefly, both vessels' lines by the same builder; the former has Morgan's paddles and the latter the old, and both their engines by Butterly & Co. We strongly advocate Morgan's paddles for foreign voyages.

The obstruction to the vessel's progress, as well as the increased labour of the engines by this extra immersion of the paddles when the vessel is deep laden, and which we wish to surmount by reefing, deserves consideration; and involves other questions of import, viz. "whether the paddles are not placed too contiguous to each other? as also, what is the extreme distance which can be adopted with efficiency for the required work?" Upon these hinge greatly the expediency, or otherwise, of reefing the paddles. If the tower (vertical) paddle have its whole depth immersed in the water, and its upper edge awash, each of the two contiguous paddles (one on either side) should not be more than a third or a half dipt, when the vessel is in ordinary trim; in such case, *when deep loaded*, the whole of the said paddles would be under water, and the two contiguous ones awash at their upper edge; then the great resistance now complained of would be confined to one lifting paddle extra, (in addition to the perpendicular one in the centre, which must always continue,) instead of one and a half, and sometimes two, (supposing smooth water as in harbour,) as frequently seen. But to do this, the paddles must be placed *well asunder*, (for we would on no account diminish the diameter of the wheel,) and have fewer in number; the precise distance, however, is a point yet undetermined; and it is of importance to ascertain this, in order to avail ourselves of the utmost extent, on account of the immersion of the paddles; for it is evident that, if numerous and closely placed, instead of three we should have several of them immersed at each revolution, every one of which offering its surface as a separate resisting power; consequently, the number should be diminished as much as possible. The same holds good relative to stormy weather, for, reef the paddles to the very shaft or axle, the rolling of the vessel will cause the whole of them to be buried in the waves, notwithstanding; nay, *paddle-box and all* is nearly lost on



such occasions. Besides this objection to any greater number of paddles than are absolutely and indispensably requisite, speed will be attained by not exceeding that exact number; because, when numerous, the vacuity of water (for want of a better phrase) caused by the dipping of each previous paddle, is not filled in by the eddying sea before the next paddle succeeds; and, consequently, does not meet with sufficient resisting force to render it effective, as would be the case was there a greater lapse of time, or, which is the same thing, a greater distance between the paddles. A further objection to the multiplicity plan of paddles will be found in the quantity of wind they generate and hold, in their revolving process. This wind, however, which nobody seems as yet to regard as detrimental, may be drawn off, and made subservient to keeping the 'tween-decks, cabins, and engine-room cool and airy during the hottest and most sultry days in summer, or, in hot climates, when the crew are gasping for fresh air.

We cannot agree with Philo that the same hourly consumption of fuel takes place, when a vessel is only making one half the proper number of strokes, without the fires are over-fed and the surplus steam obliged to be thrown away, as we all know the *Meteor*, on first starting with her wheels over-immersed, will only go five and six knots according to weather, the second day will go six to seven, and then seven to eight, as she got lighter, and so the consumption of coals increased from seven to eight and nine chaldrons. Mr. Hall (in your March number) tells us his boilers have run three years, and are perfectly clean and good, but does not inform the public whether in salt water or fresh, coasting voyages or foreign; also, no blowing off of the boilers:—will he say the number of days the steam has been up (with salt water) in the said boilers, without blowing off, or out, at one period?

Your second correspondent, who signs himself "An Engineer," (evidently a man of vapour,) makes a very gratuitous display of his ignorance of the habits of naval officers, when he says, "I am pained to observe" the apathy with which naval men treat the acquirement of such knowledge, (steam-engine, &c.) *I have found not a solitary sample of "want of taste" for so interesting a portion of science.* Naval men, sir, though they may not feel themselves qualified to write for periodicals, are, nevertheless, professionally men of science, learned in the mysteries of navigation, and can track a ship through the pathless main; is it then even probable, that the science of steam should afford no charms for such men? Their remarks and communications are not, it is true, always laid before the public, but are addressed to their proper board, the Admiralty. Why he has thus stigmatized a whole body, belonging to one of the first and most honourable professions, we know not; and that, too, on a point involving dereliction of duty, in a new branch of their particular calling. If, however, he must



be demonstratively refuted, we beg to refer him to the United Service Magazine for May, likewise to a work on Steam Navigation, by Lieut. Otway, R.N. which has gone through two editions; as also to the public lectures of a Lieutenant of the Royal Navy, not long since given in London, &c. We perfectly agree with "Engineer," that correct information as to the principle and construction of the Steam Engine, is of immense importance to the Navy; and we hope we have done our best to get all the information we can on the subject, *for we think it materially concerns the Navy.*

W. H. SYMONS, Lt. R.N.

ROBT. OTWAY, Lt. R.N.

Plymouth, 11th June, 1835.

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ON THE PRACTICABILITY OF A PASSAGE TO INDIA, *Westward through the Isthmus of Darien.*

IN these times of innovation and improvement, we naturally cast our eyes over the map of the world, in search of new tracks to remote countries. And where the question is one of considerable magnitude, and the boon sought to be obtained is intimately connected, in a commercial point of view, with society at large, it assumes an aspect of curiosity and research of more than an ephemeral nature.

I have long thought, sir, upon the practicability of a new passage to India and China, by sea, without doubling the Cape. I have no allusion to those which have been suggested by sailing up the Mediterranean, and cutting through the Isthmus of Suez into the Red Sea; or by carrying the freights of the different ships overland from the eastern shores of that sea to the Euphrates, whence they might be re-embarked, and floated down the river to the Persian Gulf: the first of these prospects might lay Egypt under water, and the last is too chimerical to engage much serious attention. The new passage which I submit to the notice of your scientific readers, is transversely across the Atlantic and through the Isthmus of Darien. The plan (I believe) is not a new one, but has, if I am not mistaken, more than once engaged the attention of speculative men. But the fact of its having been abandoned at any former period by no means militates against the possibility of its accomplishment in the present age—inasmuch as the facilities for promoting such an undertaking are immensely increased. The introduction of steam navigation into naval tactics\*

\* The claims of the Americans to the honour of being the first inventors of this art are loud; but a literary friend of mine at Henley-upon-Thames showed me, some time since, a treatise, by an Englishman, as long back as the middle of the last century, which completely disproves the validity of these claims.\*

\* See Nautical Magazine, vol. ii. p. 443, for a refutation of these claims.



has opened a field which discloses to human view objects before considered unattainable,—a field rich in further discovery. It may, perhaps, not improperly be esteemed an epoch; and, as the introduction of gunpowder in the 14th century, quickly in military tactics changed the whole art of war; so, it is not too much to say, that the application of this agent to the propulsion of our ships may be thought to superinduce very important innovations in nautical practice.

The advantages attending such a passage to the eastern hemisphere as that I have suggested, will strike the mind of the attentive observer as being great.

In the old track, by stretching down the Atlantic to the 42nd degree of south latitude, the dangers attending a voyage to India, at certain seasons of the year, are spoken of by all navigators. To say that this track has, for the last three centuries and a half, formed the connecting link between Europe and the eastern parts of Asia, does not by any means prove that a better does not exist, the discovery of which may crown the exertions of mankind in some future age.

The passage round the Cape is, at certain seasons of the year, highly dangerous. The difficulties, sometimes in doubling this extremest point of South Africa, have been acknowledged by all navigators, since the days of the illustrious Gama, who, upon its discovery, rightly named it the Cape of Tempests.

The communication then opened, by a series of unparalleled exertions, between the Atlantic and Indian oceans, must ever form a memorable epoch in the annals of mankind. But the intrepid seaman, by whose dauntless courage it was achieved, was fully aware of the perils which the eternal hand of nature had planted around the important boundary of the junction of the two seas. Much was accomplished, doubtless, and an incalculable advantage gained. The views and remote aims which prospectively solaced Gama amidst all his toils, may be said to have been realised in establishing a greater propinquity between Europe and the East. But the beacon which lighted Gama across the mighty waters, still gleams abroad in the improved science of these modern times, and whispers that our navigators, by the right application of this light, may yet attain to other advantages.

In the first place, then, as a new line of navigation to our colonies in New South Wales and Van Diemen's Land, the course through the Isthmus may be thought more eligible. The distances by the old and by the new track would be pretty nearly equal, and in the latter the doubling the Cape, with its attendant delays at certain seasons of the year, would be avoided.

As these colonies from the mother country must be allowed to be in a prosperous and a rising state, it is important that the communication should be facilitated by every practical mean,—which



it may be thought would, in a higher degree, be accomplished by sailing through the Isthmus. In the new line of navigation, also, which I have projected between Europe and the eastern parts of Asia, the distance would certainly be increased. To India (and port of Calcutta) it might amount to a fifth more, whilst to China (port of Canton) it scarcely, perhaps, exceeds an eighth. But the increased distance of sea to be traversed, as it may be thought, is abundantly compensated in the increased facilities with which the voyage may be prosecuted. And when contemplated as an arena for steam-navigation, these facilities are increased fourfold. Except in transversely crossing the Atlantic to the windward, or the Caribbee Islands, the passage from the British Channel lies, throughout, within the tropic of Cancer. Our outward and our homeward-bound ships would therefore, the greater part of their track, sail within the influence of trade winds. It is well known that these winds, from the equator to the 28th degree of latitude, north and south, blow uniformly from the east. The advantages to *outward-bound ships*, from this circumstance, is most material, inasmuch as, in traversing the whole extent of their tropical voyage, sails might greatly assist the steam propulsion.

It may be here objected, however, that, in the passage by the Cape of Good Hope, the monsoons are highly instrumental in assisting our navigators both in going and returning. From the spring to the autumnal equinox, these monsoons are known to blow uniformly, in the Indian Ocean, from the southward; and, on the contrary, during the months of October, November, December, January, February, and March, they blow as uniformly from the north.

This economy or this phenomenon in nature doubtless accelerates the navigation in the old track under certain circumstances, but in tempests it may be thought adverse to it: whereas in the new line of communication here suggested the reckonings of our mathematical adventurers as connected with time and speed may, for any thing I see to the contrary, be made with more accuracy and precision. I believe it is the opinion of practical seamen, that the crossing and again recrossing the whole breadth of the tropics in the outward and homeward-bound voyages is attended with inconveniences and delays from which our ships would be comparatively free, were they to steer their course westward instead of eastward.

I come now to what will be thought the most arduous achievement of this undertaking, viz. the cutting through the isthmus which divides the great western continent. The difficulties to be contended with in excavating a channel from the Atlantic to the Pacific have, I am sensible, been represented as absolutely insuperable, both from the intervention of mountain ridges and sandy soils; but neither of these general allegations, perhaps, is so strictly



true as, if examined, to furnish an argument for its relinquishment.

The narrowest part of the isthmus is, by the computation of Mr. Lloyd,\* who has surveyed the spot, not more than twenty-eight miles across from shore to shore. But this line of excavation would be by no means, eligible, from its mountainous and rocky nature. A similar objection might be taken against the well-known and most frequented route from the town of Porto Bello to the city of Panama, the ancient capital of Terra Firma. The chain of the Andes does not by any means, however, extend along the isthmus; but still, broken and conical hills, of varying altitudes from 400 to 2000 feet, so intersect and occupy the soil in the line of communication between Porto Bello and Panama, that excavation would be impracticable.

The track, then, which seems to be pointed out by nature as the line of communication between the two seas, is decidedly that which, commencing from the bay of Limon, and following the course of the river Chagres to Cruces, or to Baila Mona, proceeds thence by a direct course to the bay of Panama (a distance of some ten or fifteen miles) without the intervention of any barrier which would, perhaps, materially impede the prosecution and accomplishment of the undertaking.

The entire distance traversed by this line might somewhat exceed forty miles, but the facilities accompanying it give it the preference over a shorter route which might be projected. It will be acknowledged that the same soils which form the basis of a river, may, in the generality of cases, and with a few exceptions, (such for instance as where from some volcanic disruption of the earth's outward strata, or through the powerful collision of internal causes not determinable by us, deep and tortuous gullies are formed) be, without much difficulty, excavated into a channel for ships.

In the tactics connected with the inland navigation of this country, it is the practice of our engineers to pierce, instead of excavating, a hilly district through which the line of communication is to pass. The practice of making tunnels through mountain passes, or any other natural barrier, is a favourite one in England, and it is, in many respects, an excellent provision against circuitous routes, although it is often, on the other hand, attended, in its navigation, with much danger and inconvenience. But as its adoption for purposes of ship navigation would be utterly impracticable, so, by carrying the line of navigation here suggested through the valleys which intersect the hills and headlands, its requisition would be superseded.

A numerous company of miners from England, directed by the enterprise of a few engineers of known character and science, might, through this line of communication, cut a ship-canal from the

\* Mr. Lloyd's map will be found at p. 516 of our first volume.



Atlantic into the Pacific of dimensions sufficiently large for the purposes of steam navigation. By following the level through which the Chagres runs, and afterwards tracing the low lands right to the bay of Panama, ships of 500 tons and upwards might, for any thing I at present see to the contrary, be propelled across the isthmus by the same agent which, in Europe, but especially in the United States of America, has been applied with such prodigious effect to navigable purposes. The imperial canal of China is nearly 900 miles in length, 50 feet in breadth, and 9 in depth. This magnificent undertaking was executed by the united efforts of a dense population, directed by the talent and enterprise of minds capable of enlarged views; but the cutting a ship-canal large enough for ships of merchandise, from the Atlantic to the capital of Terra Firma, might be made the common cause of Europe, and executed, if requisite, at the joint expense of many nations.

When we view, sir, the expense in treasure and in human suffering, which has, for the last fifteen years, marked the progress and the failure of that Utopian scheme, a north-west passage to India, the splendid *El Dorado* of sanguine projectors, and the cherished chimæra of the credulous, our eyes naturally turn, with some relief, to more genial climes and less rigorous elements. Tired with the dreary expanse of eternal snow and ice, we prospectively fasten our inquiries and our views upon tracts of our globe which, in the economy of nature, offer, as the medium of our progress, serene skies, and less intractable elements. With regard to a north-west passage, can it be for a moment supposed, that the formation of a ship-canal through the Isthmus of Darien involves the same difficulties, or that it does not, on the other hand, present far less of peril and discouragement than the working a passage, even if one exists, from the sinuosities of Baffin's Bay to Behring's Straits? It will not be pretended. Were even a ship, by a lucky synchronism of circumstances, once to force its way from Lancaster Sound or the Coppermine River to Behring's Straits, or the Western Arctic Ocean, could any human foresight or industry make a provision for this passage continuing open for any ship or squadron of ships? That the accumulation of perils, on the other hand, in bar of this northern passage, are frightfully great, and must be whilst the earth continues her present position in her orbit, needs here no comment of mine to prove.

Severe and intense suffering *have been* the unvarying accompaniments of all our voyagers who have endeavoured to remove barriers which nature seems to have planted around such an enterprise. The highest known temperature is, in all respects, unfitted as a medium through which to grapple with the various other impediments with which they would have to encounter. That such *will be* the inevitable character of the elements which will attend the progress of all who adventure into those regions, is abundantly



proved by the narratives of Captain Ross, Captain Parry, and their innumerable predecessors.\*

With regard, sir, to the various depôts for watering and fuel, which in a steam navigation of so protracted a nature, would be indispensably necessary, the passage across the Atlantic seems intelligible enough. A run from the Azores to Hispaniola, Cuba, Jamaica, or the Windward Islands, to Porto Bello, is easily accomplished; and from the western side of the Isthmus of Panama to Christmas Island in the Pacific Ocean, is by no means difficult. From thence to the Carolinas or the Marian Islands; and, subsequently, through the Philippines to the port of Canton, provided the seas are as favourable for navigation as when Commodore Anson, nearly a century since, floated the British flag triumphantly o'er their waves,—an expeditious and a safe passage awaits the mariner.

When Gama first ploughed the expanse of the great southern ocean, through unknown latitudes, the goal of India and the rich countries of the East, so glowingly described by Marco Paulo, was, doubtless, full in his recollection. The treasures and the costly merchandise of Quincsaï,† or of Delhi, might pass by Alexandria, through the Mediterranean, into European marts, but the route of communication was precarious and difficult; and the hope of throwing open the bright advantages of this extensive monopoly to the western world, through other channels, animated him under all his discouragements. If a still less circuitous route be practicable, should it not enlist the enterprize of modern times in aid of its adoption? Whilst reviewing the vast sums which have within recent periods been lavished in ruinous and infatuated schemes of mining, more sound policy would perhaps suggest the excavation through an isthmus which might open a mine of more sure and permanent treasures.

I wish, sir, through the medium of your valued pages, to call the attention of the scientific world to the undertaking; and that some of your readers more competent than myself would give it the energies of a more powerful pen.

I am, sir, yours, &c.

Helksham, Oct. 30, 1834.

E. P.

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#### MORGAN'S PADDLE WHEELS.

*To the Editor of the Nautical Magazine.*

IN the 39th number of your valuable Magazine for May, at pages 290 to 297 inclusive, is an article signed "Hiram," having, as it seems to me, no other object than to uphold the old paddle-wheel, at the expense of every other system of wheel which of late years has been submitted to the public for its benefit.

\* See vol. iii. Naut. Mag. p. 266, for a complete statement of these.

† The Pekin of Marco Paulo.



In his essay, your correspondent Hiram states, that my brother's paddle-wheels are the only wheels, proposed as improvements on the old wheel, which have stood the test of practice; and he seems therefore to have singled them out as the object of his attack, heaving all the other new systems overboard in a very summary and unceremonious manner. After quoting only such circumstances as he conceived made for his case, out of all the numerous trials which have been made of Morgan's wheels, and after assuming Mr. P. W. Barlow's correctness as respects the wheels in question, and after also adopting Mr. Barlow's *error*, namely, that Morgan's paddles are virtually *vertical paddles*, he concludes by proving, *to his own satisfaction*, that in a pecuniary point of view they are failures, and *that no benefit arises from their application*.

In making out his case, Hiram relies on the examples quoted, and the contrasts he has drawn; but although he approves, and adopts, all that Mr. Barlow said in disparagement of Morgan's wheels, he has, somewhat unaccountably for a candid critic, kept out of view what Mr. Barlow states to their advantage.

In like manner, he illustrates his description, of what he represents Morgan's wheels to be, by an incorrect cycloidal diagram of the first conceptions of that wheel, placing in contrast with it, not the diagram of the common wheel as drawn by Mr. Barlow, (which he designates as *bad, more so than any he ever saw,*) but a diagram of his own, studiously framed to shew it off under circumstances seldom afforded to any wheel.

As Hiram and I have come to different conclusions from the same premises, namely, the trials that have been made, it remains for me to bear out the accuracy of my opinion by supplying some of those favourable facts which Hiram has omitted.

I must, however, first point out, and be permitted to remark, *en-passant*, on some strange inaccuracies which he has advanced roundly. One of them is, that the giving way of one rod in Morgan's wheel renders it useless. Now, in fact, if one rod gives way, (a thing as yet unknown, in 5½ years' practice,) another rod can be at once substituted, or, if there is no duplicate on board, then by the removal of the forelocks and bolts, the rod and its float may be removed, and landed on deck, and the wheel be set to work as before. Another error advanced by Hiram is, that there is excessive wear of the brasses. Now, there are no brasses in the numerous joints to which he alludes, consequently there cannot be such rapid wear of them. Brasses *were* originally introduced, but they were soon replaced by more suitable metal, even before the Flamer's wheels were, as he observes, *remodelled*, and made to conform to the improved proportions introduced, tending materially to diminish wear; and such was the success of the system, that the Admiralty decided that the Flamer's wheels should be so *remodelled*,



certainly at a considerable expense; but it was an expense, by the way, they would not have incurred, had not advantages of a prominent description been found in practice to result from their use.

A third inaccuracy is, the statement that *Morgan's wheels are rendered very heavy* by reason of the necessity of bracing them with diagonal stays, to counteract their liability to twist. A little more inquiry would have enabled Hiram to ascertain the fact, that, one wheel with another, Morgan's wheels, with all their numerous and (as practice proves) amply sufficient trussings, do not weigh by one fourth, and frequently by one third, so much as the "good old wheel." But Hiram denounces Morgan's wheel as mechanically faulty, because the shaft does not pass through. Not being a mechanic, I can only suggest, that, in common sense, mechanism which was devised for a particular purpose, and which has fully answered that purpose, by procuring all the advantages contemplated, without evincing weakness, cannot surely be taxed with faulty combination.

If my brother's wheel had been intended to have been exposed, as the common wheel is, in a sea way, to a continual struggle with the elements, or to have the planes of its floats frequently struck by heavy seas at right angles to their surface, it is possible the mechanism in question would be open to the charge brought against it of faultiness. Such is not, however, the case. It slides or cuts edgeway into the water, gradually receives the power of the engine and the resistance of the fluid, and as gradually relieves itself both from power and resistance, escaping from the water in the same easy mode which facilitates its entrance.

These were the objects contemplated, and it would appear, to mere common-sense persons, that if the mechanism contrived be adapted to its purpose without involving extra weight, it has surely a claim to exemption from the charge of mechanical faultiness.

It may be said, that the word of one man is as good as that of another, and that Hiram may be correct in stating Morgan's wheel to be heavier than the common wheel. I am, however, enabled to offer the following proofs of the superior accuracy of my assertion.

	tons.	cwt.	qrs.
{ The old wheels which were removed from the Con-			
fiance weighed, floats and all, . . . . .	16	0	0
{ Morgan's wheels in the Confiance weigh . . . . .	11	14	0
{ Common wheels removed from the Lightning			
weighed better than . . . . .	16	0	0
{ Replaced by Morgan's wheels weighing . . . . .	10	1	3
{ Common wheels removed from the Pluto weighed			
upwards of . . . . .	14	0	0
{ Replaced by Morgan's wheels weighing . . . . .	10	9	0



Hiram could never intend seriously to assert, that *the farther a wheel is removed from the side of a vessel, the better the performance*. It is so said in the article, but I presume some error of the press, or some inadvertency, to have led to such insertion. What I presume he did intend to have said, is, that the floats should not approach so near the side of the vessel as to scoop the water from it. And in that we should agree. But in his condemnation of my brother's plan he has overlooked the fact, that Morgan's floats, by plunging deeper, act at a greater distance from the vessel, owing to the rounding of her bilge, or rise in her floor. In like manner, Morgan's floats, from the same cause, and the finer entrance at that depth, act in a less disturbed medium.

Every one at all conversant with the difficulties with which projectors have to contend, must be aware, that, however good an invention may be, it cannot, when bulky, and exposed to complicated circumstances, be perfected at the time it is first announced; for if it be attempted to be perfected in public, none could reach the period of specification without being forestalled. The perfection of inventions must, in the state of our patent law, be left for public practice after specification. In this predicament my brother stood, in common with others; and it is rather unfair to tax his wheels in 1835 with defects displayed in the two first sets which he fitted, the more especially as those defects have been long remedied. If objections are *now* to be taken, let them be taken to the machinery as *now* constructed. I may also be permitted to remark, that the cycloidal diagram (as published by Hiram) is not a correct illustration of the path of any one wheel ever made by my brother, and is therefore no way useful for the purposes either of the critic or of the public. And at the same time I will venture to assert, that the diagram given by Mr. P. Barlow, of the performance of the common wheel, is by no means distorted to operate unfavourably to that "good old plan," or at all incorrect; and if its performance be, as Hiram asserts, *bad*, he has himself given the character to his *favourite*.

Again, the sketch given by Hiram of the wheel which, he leads you to infer, is extracted from Mr. Robertson Buchannan's work, is by no means a correct representation of the wheel proposed and tried by that ingenious mechanic. This, any of your readers will perceive by referring to, or as Hiram recommends, *seeing* Buchannan.

Buchannan's proposal was, of two equal rings, placed excentrically to each other, having arms fixed radially to their respective centres. These rings were made to revolve, each upon its respective centre, in its own plane, with one and the same uniform velocity, and in the same direction with regard to the lines (arms) alike situated in each ring. Lines were drawn from the arms parallel to one, supposed to join the centres, until they met the other ring or



circle; these lines continuing equal and parallel, to that line of distance, during the whole of every revolution.

If Buchanan's wheel be compared with Hiram's sketch, the departure from the former by the latter will be strikingly obvious. Hiram having all his floats below the centres on which they move, whereas Buchanan balanced his equally above and below these centres. Hiram suppresses the two rings or circles entirely, and substitutes one polygonal figure for them.

He draws in a comparatively small excentric, and shews the arms or rods, as if jointed in the excentric, which is the reverse of what Buchanan did. These deviations are possibly accidental, or, possibly, Hiram considered himself at liberty to alter these things, provided he shewed his floats vertically placed, and parallel to each other throughout their revolution. His explanation of his drawing is also not strictly in accordance with his author, but is sufficiently so, to point out, *to those who read carefully*, that *his diagram is incorrect*; for it will be seen, that if the rods or arms of the excentric were jointed at their junction with it, as well as at their connection with the cranks, the floats could not be maintained in the positions in which they are placed in the drawing.

These are therefore inaccuracies, and may by some be passed over as such merely; but when it is considered that they are superadded to so many others, we must withdraw all confidence in the dictum of one who seems ambitious, even under a mask, of the office of upholding or of pulling down systems.

Hiram asks if back-water is really an evil. Let him catechize the owners of the river barge and wherries on this point, and they will perhaps tell him, that the heavy rolling waves which are thrown from the paddles with such woful effect on their property, and sometimes on human life, must require some agency in their production. Any observer must have witnessed, that many tons of water are lifted by the common wheel per minute, and that they are hurled from the wheels with considerable velocity. Some power must be exerted to do this. The small spray that rises with any object leaving the water rapidly, is widely different from the rolling wave I allude to. To whatever extent therefore power is required to produce the nuisance so often complained of, to that extent must back-water be objectionable. I am aware that the semi-circular waves produced by the parting of the water by the vessel's bow is frequently mistaken for that which really is back-water from the wheel. My remarks, however, apply to the latter alone. It is sufficient of itself.

Hiram gives the performances of certain vessels, and contrasts the Soho, having the common wheel, with the Flamer having Morgan's wheel, stating, that both vessels were ready for sea at the several times of trial, and that the advantage of form must be admitted to be with the Flamer. So far good. But why did he not state



that the circumstances of weather were similar, the weights equal in both cases, the displacement alike, and that both had equal command of steam. Was Hiram really ignorant that the weights in the Flamer, and consequently her displacement, very considerably exceeded that of the Soho? He ought not to have been so, nor of another fact, namely, that the Flamer was short of steam from her first starting, thus accounting for the difference between the velocity of her engine, and that of the Soho. Now, Hiram must allow that the Soho worked to her power, and that the Flamer did not; and the only doubt expressed by him, which has been justified by fact, makes directly in the teeth of his position.

The quantity of fuel, which each consumed, seems to have been inserted as a satire on the boiler-makers who made the Flamer's boilers; for it was surely never intended to be conveyed, that because the Flamer's engines only revolved 24 times per minute, they therefore consumed more fuel than the Soho's going up to 28 revolutions. In fact, the Flamer's boilers were and are too small: heavy firing, and increased consumption, have been the unavoidable consequences. Will Hiram assert, in broad terms, that the Soho was as fast as the Flamer, before the recent increase made to the Soho's power? I suspect he will not, for knowing what he apparently does, he must have known that the Flamer had the heels of her very decidedly.

Hiram seems to be as inclined to ask questions, as to make assertions. I must be permitted to ask a few in turn.

Did the Soho, under any circumstances, or could she, when the Harlequin was equipped for the Margate station, try speed with her, and in so doing run paddle-box and paddle-box for miles with her?

Did or could the Soho run with the Royal George, in her best days, and hold her own with her? To be equal to the Flamer, she ought, however, to have done so; for the Flamer did both.

It, however, happens, and unfortunately for Hiram's selection of the Soho, that my brother was this last spring applied to, to fit wheels on his system to the Soho, and would have done so, had not the removal of the paddle-beams become necessary, and extreme difficulty of placing them without sacrificing berth-place arisen to interfere with the wish of the proprietors; and it would be rather too much to expect the admission, that the intelligent manager of the Soho's company would have entertained Morgan's wheels, if the Soho had proved superior to the Flamer.

I have said that Hiram had forgotten those parts of Mr. P. Barlow's essay in which favourable mention is made of Morgan's wheel. He also expresses doubts of the correctness of the advantages, (which he, however, does not enumerate, but terms *very small*,) allowed by Mr. Barlow to them. He also says that no trial was made of the Medea at her load draft. Now, these omissions are



not proofs of candour, nor does the last assertion make in favour of the accuracy of his reading ; for he ought to have seen, at page 204 of the paper which he quotes, a note at foot *sufficiently large and distinct to claim notice*, describing a trial in which the Medea, Salamander, and Dee, ready for sea, coaled and all, contended for speed, in the presence of the Lords of the Admiralty, and *which was entirely in favour of the Medea, whose speed was  $\frac{1}{4}$  of a mile per hour greater* than that of the Salamander or the Dee. Surely three-quarters of a mile on ten miles, must be admitted to be a very great advantage; and although Mr. Barlow allows "nearly" that excess, the officer who was appointed to take the angles, made it appear to be rather more than three-quarters of a knot, which is the gain that was allowed by the Lords Commissioners. This was also with the tide; against it, the advantage in Medea's speed was greater. This is not, however, a stray or solitary instance of gain effected, in a degree, even in smooth water by my brother's wheels. I have before me a copy of the official despatch of the officers deputed to try the Confiance, when first fitted with my brother's wheels, and to contrast her performances with those of the Carron, fitted on the common system. These gentlemen reported, that the Confiance had, on a comparison of their respective logs, gained, by the alteration of her wheels, an increase of speed of two knots (on 7) in smooth water, and of  $2\frac{1}{2}$  (on 4 to  $4\frac{1}{2}$ ) knots in rough weather; that the action of the paddle did not bring up the engines, or retard their velocity materially in a head sea; that, in rolling their action assisted in righting the vessel; and *that the wear and strain, as well on the vessel as on the engines, was materially reduced.*

I have also before me an official copy of the report made by another officer, when in command of the Confiance, which, after detailing the circumstances attendant on an arduous duty, he concludes by stating it as his opinion, that a vessel fitted *with the old wheel could not in the gale in which they were embayed have clawed off from the lee shore*, close on which they were.

These are worth something, especially as there are other facts in abundance, to bear out the correctness of both reports.

The Lightning, Confiance, and Echo were started from off Woolwich dock-yard, on a trial of their comparative speeds.

The, then, first sea Lord, Sir Geo. Cockburn, was on board the former vessel. The Confiance and Echo are sister vessels; their fittings were every way similar, their engines equal in power and form, and by the same eminent makers. My brother's wheels being fitted to the Confiance, constituted the only difference between her and the Echo.

The Lightning's engines were also by the same manufacturers, and of similar power, viz. 100 h. p. but in all other respects the Lightning was a very superior vessel. Their respective draughts of water, officially taken at starting, were—



Lightning	. .	9 ft. 4 in.	forward.	9 ft. 10 in.	aft.
Echo	. . .	11	0	11	6
Confiance	. . .	11	1	11	8

After an hour's run, during which the *Lightning* and *Confiance* were nearly paddle-box and paddle-box, the *Echo* was two long miles astern, when the admiral, satisfied, ordered her by signal to return. The two other vessels proceeded on to the Downs, and there anchored, the advantage being with the *Lightning*, but very trifling in extent. The following day, the wind S. W. strong breezes and a heavy sea, the admiral took them into the Channel, and tried them head to wind and sea, when, contrary to invariable former custom, *Confiance* beat the *Lightning*, and at no less a rate than three-quarters of a mile an hour, her engines working at 19 revolutions regularly, and without any variation, whilst those of the *Lightning* varied with the 'scend of the sea, as is usually the case where the common wheel is applied; thus affording a strong proof of the superiority of the new wheel over the "good old plan." The *Lightning* was previously much the faster vessel, especially when head to wind, and she has since regained her superiority over the *Confiance*, by being fitted with wheels on my brother's plan. I have been assured by Mr. Rastrick, the chief engineer of the *Lightning*, that in a gale of wind, when fitted with the old wheel, he was obliged to be constantly in attendance to ease his engines, to prevent their rattling to pieces when disencumbered by the wave, and the wheels spinning in the air, but that, since the new wheels have been fitted, the necessity of such caution no longer exists, owing to the regular or gradual increase and decrease of the engine's velocities, and that now he is as much at ease as if the vessel was under sail. Hiram's acquaintance with the dockyard seems to be intimate, and it ought to have led him also to the knowledge that the *Columbia* had her power reduced from 120 h.p. with the common wheel to 100 h. p., with Morgan's wheels, and that, notwithstanding the decrease of power, her speed was increased a mile an hour in smooth water, though she stows 40 tons more coal below, than she previously did, and though her immersion remains unaltered from what it formerly was. The instances in support of my opinion do not end here; but I am sure those I have given will be allowed to be conclusive by the unprejudiced.

Unwilling as I may be to trespass too long on your pages, I am bound to disclaim here, in my brother's name, and with his sanction, any participation in, or knowledge (either indirect or direct) of your correspondent Z.'s communication on the subject of his wheels at page 368 of your June number, and to disclaim equally in his name any cognizance of, or agency in producing, the insertion of the paragraph in the paper whence it was extracted by Z. To this disclaimer I am induced by the belief, which usually obtains, that such articles are penned by the parties most interested. Should



such a belief have been formed, I can vouch for its being most incorrect.

I wish to profit also of this opportunity to reply to the remarks of Philo inserted in the same number at pp. 346 to 349, respecting shifting or reefing floats, or shifting axles. The next to impossibility of the latter, compatibly with solidity, is almost an axiom.

With respect to the former, it has been found in practice, that if the paddle-bolts are of iron, and are often disturbed, they become small for their nuts, the floats become loose, rattle, and then wear rapidly by the reiteration of contact with the arms or bearers. If the bolts are of gun-metal, they are liable to break, and the nuts to run round, when the floats loosen and wear; constant access must be also insured to the paddle-boxes, for the purpose of reefing; a thing impracticable in a sea-going steamer, whilst the tedium must be great in adjustments and re-adjustments.

The evil faithfully set forth by Philo is a serious one in all steamers fitted with the common wheel, and has proved a grand drawback on distant navigation.

The remedy he proposes is next to unattainable, however inviting it may theoretically appear; but its necessity is nearly obviated by my brother's wheel, for the difference between the regular light and deep lines of the vessel affects the angle of his floats in so slight a degree during their path through the water, as to produce little retardation of the vessel from that cause. So that all the disagreeables and difficulties attendant on shifting floats are thus obviated by the adoption of machinery in other respects also superior.

By the way, some very interesting trials affecting this very question have been recently made by that intelligent officer, Capt. Austen, of H.M. steam-vessel *Medea*.

That officer has been much under sail whilst attending on the fleet in the Mediterranean, as, owing to the necessity of husbanding fuel, the steam has been only resorted to for the purpose of towing, or very particular service.

This vessel is fitted with Morgan's wheels, and, easy as their action was admitted to be, it was conceived that when disconnected from the engines, and the vessel was under sail alone, they tended in a measure, although in a less degree than the common wheel, to retard the vessel's way. On the return of the fleet from Vourla to Malta, Captain Austen obtained the sanction of the commander-in-chief to remove the floats, and to proceed under sail for Malta; and by a comparison of the vessel's performance with the floats removed, with her performance with the floats on and the wheel simply disconnected, no calculable difference was observed to result from the removal of the floats.

An important advantage was thus established to result from the application of Morgan's wheels to steamers which have to be much



under sail, dispensing, as they do, with the necessity of tampering with the floats, or of doing any thing beyond the disconnection of the paddle-shaft from the engine. The disconnection is readily effected, and admits of the engines being as readily reconnected to the wheels.

This is a matter of a vastly more importance than appears at first sight, since no one can predicate the moment when the necessity of reconnection may arise.

I feel I have long trespassed on your pages, and possibly on the patience of your readers, but I trust not wholly uselessly.

I am, Mr. Editor, your most obedient servant,

RICHARD MORGAN.

London I. U. S. Club,  
8th June, 1835.

Commander Royal Navy.

P.S.—Your correspondent, in common with many others, lays much stress on the mile-trials in the river. To entitle these trials to the degree of importance which they have attained, many things have, are, and must be wanting. For instance, it is essential, to a just comparison, that the engines of every vessel should be in the same state of perfection; that these engines should be equally well supplied with steam; that the weather should be alike in all cases; the times of tide similar; and even that the vessels should be all steered precisely in the same course, neither more nor less. But this has never been, excepting by the merest accident, if ever.

I need only quote the results of the mile-trials made of the following vessels, and contrast them with the performances of these same vessels in working order.

The Phoenix, at the mile, obtained a mean of	11·7
Rhadamanthus . . . . .	10·4
Dee . . . . .	10·61
Flamer . . . . .	10·9
Firebrand . . . . .	10·55
Medea . . . . .	11·33

If these trials were decisive, then their several rates of real speed, under precisely similar circumstances of weather, would follow in the ratio of their mile-trials. But what is the fact? Why, that Phoenix, Salamander, Rhadamanthus, and Dee *are as nearly as possible of one and the same speed*, their lading being alike; the Dee and Salamander, the Dee and Rhadamanthus, the Phoenix and Salamander, have been running together without any sensible advantage obtained by the one over the other; whereas, by *the mile-trial*, the Phoenix was better than *a mile an hour* faster than the Dee, *a mile and a quarter* faster than the Rhadamanthus, nearly a mile faster than the Flamer, and a third of a mile faster than Medea — faster than Medea, *which beat her consorts and*



*equals at the rate of  $\frac{1}{4}$  of a mile per hour ; faster than Flamer ; which deeply laden beat the Dee and the Salamander at about the same rate ; faster than Fireband, which is equal to the Flamer.* The mile-trials are useful when the same engines, or the same vessel, are to be tried under different circumstances of equipment, or material change ; they are useful, but not conclusive. They are useful to the engineers, to enable them to detect any defect in the erection of their engines ; and they are useful as the means of assuring the commander that his machinery is in order. So far they are useful ; but, as they are and have been conducted, they are only useful so far, *and in no way are they conclusive.* And yet from the results of trials so inconclusive, because so imperfectly and so variously made, as to afford no accurate means of comparison from the results of trials, I repeat, made at times on unfinished vessels, at others of vessels overladen, (for our trials deal in extremes,) do many gravely infer, that Morgan's wheels can be productive of no advantage to that vessel which is *always to swim at one immersion.* But these persons forget the fact, that Morgan's wheels have hitherto been constructed for vessels intended to have a *varying immersion*, and which were never contemplated to be at the light lines at which they were tried, and that therefore they have been calculated for any other emergency than that one in which they were tried. Hence results the vast difference between the useful performances of Morgan's vessels, compared with their performances at the *quasi* farcical mile-trials.

Whenever an opportunity is afforded for their application to a river vessel, the present illusion, on the score of their fitness, will be dispelled.

SIR,

Since I addressed you on the 8th instant, in reply to the article of your correspondent Hiram, I perceive at page 605 of your work for December 1832, that the registered tonnage of the Soho is no more than 353 tons, whereas the Flamer's is 494 $\frac{1}{2}$  being an excess of 141 tons over the Soho ; and yet Hiram asserts the equality of these vessels in point of size with the advantage in point of form on the Flamer's part.

I have therefore to request you will insert this further correction of Hiram's inaccuracies.

I am, sir, your obedient servant,

RICHARD MORGAN,  
Commander, R.N.

I. U. S. Club, 23 June, 1835.



## HALL'S IMPROVEMENTS IN THE STEAM-ENGINE.

*To the Editor of the Nautical Magazine.*

Derby, July 8th, 1835.

SIR,—On reading the article on Mr. Hall's improvements on the steam-engine, in the Nautical Magazine for last month, by "An Engineer," I was at first at a loss to know whether he was not a real friend of Mr. Hall, under the semblance of a pretended enemy; for what can be a greater compliment to Mr. Hall than to prove "that the idea (of that which he has brought to perfection) has several times occupied the attention of eminent men," and to show that all the experiments and attempts made by them have been unsuccessful, and that even the "much more modern series of experiments, in which condensation by cold surfaces was carried to a great extent, was found impracticable." The fact is, that the more numerous the attempts "An Engineer" proves to have been made without success, the more merit he proves Mr. Hall to possess, in having *accomplished* that which so many others have attempted in vain.

I say, *accomplished!* for even "An Engineer" admits that he has effected sufficiently rapid condensation," to produce a vacuum that would support a column of 28 inches of mercury. Now, if that were effected in the engines of the "City of London," in which the steam had to travel through 24 feet of pipe, on its way from the eduction pipes to the condensers, "An Engineer" must have but little penetration not to see that a still more perfect vacuum would be produced, were Mr. Hall's condensers put in their proper situations: viz. close to the eduction pipes, and between them and the air-pumps. This arrangement could not be made aboard "The City of London" without removing the old condensers, which was objected to by the proprietors. The apparatus was, therefore, applied in a very imperfect manner, and not at all to Mr. Hall's satisfaction. In the course of a fortnight from this time, he will have a new pair of engines of sixty horses power at work, aboard a new boat, with his apparatus properly applied; and in the course of a few weeks more, another new pair of engines, of the power of 180 horses, when, no doubt, he will accept "An Engineer's" challenge, not only to prove the increase of power and the decreased consumption of fuel, but every other point, even including the oil-saving clause, which, notwithstanding its being characterised as being "too bad," and as "really too absurd to be noticed," is, I will venture to assert, a beautiful improvement on the steam-engine, and is the great cause of engines with Mr. Hall's improvements keeping so long in such excellent repair as mentioned in a letter from William Cartledge, esq., a copy of which I send herewith. This is, of course, one of the causes of



the saving of fuel and of the increase of power, for I suppose no one will dispute that engines in excellent condition will be superior in those respects, to engines in bad condition, no matter upon what principles they may be; I may, therefore, be allowed to say, that if one of the peculiar properties of Mr. Hall's improvements be the keeping of the engines, for almost any length of time, in excellent repair, that is one of their important advantages.

"An Engineer" has displayed great rashness, to say the least of it, in condemning a thing theoretically that has been so long and fully proved by practical experience; I may here add, that Mr. Hall has made a great improvement in this matter, which is stated as "really too absurd to be noticed." He finds that the oil, which is sent into the boilers, is carried back by the ebullition of the water (in minute particles along with the steam) into the working cylinder and of course through the air-pump, lubricating in its passage the pistons of both; in consequence of this process, the oil-pumping apparatus is dispensed with; and to convince "An Engineer" how "absurd" this part of the matter is, he need only take off the working cylinder cover of any engine working on Mr. Hall's principles, and he will find an abundant quantity of oil floating upon the piston.

Will "An Engineer" say, that the abundant lubrication of four pistons in a steam-boat is not productive of *any* increase of effective power, and consequent saving of fuel? I ought here to point out one of those enormous inaccuracies (whether wilful or accidental, I leave to your readers to judge) of which "An Engineer" is so often guilty; he says; "Well might capt. Martin observe the oil is not yet of sufficient depth to draw off for use, *after a season's running, and that almost daily.*" Now, capt. Martin's letter is dated 9th of July, and the "City of London" first went to Ramsgate about the middle of June; if, therefore, 9th July were the end of the season, it must have been a very short one. Being a neighbour of Mr. Hall, and having taken out a manufacturing license from him, I feel it a duty I owe to him, (knowing that he never answers anonymous and illiberal attacks,) thus to reply to "An Engineer," and am encouraged to do so at some length from your assurance in this month's "Nautical Magazine," that you are anxious to do Mr. Hall all the justice which his cause deserves. The subject is, indeed, of so much importance, that I doubt not you will excuse the length of this communication, which (in order that "An Engineer" may not say that I deal in assertions only, which he truly says is no argument) will be accompanied by testimonials from men of unquestionable judgment and veracity: in addition, therefore, to the report of capt. Martin (at whom "An Engineer" so unhandsonely sneers) and that of Messrs. Lloyd and Kingstone, which are con-



tained in your number for March, I send you the testimonials of Capt. Wright, Messrs. John Fox, William Carpmael, Samuel Seaward, William Nicholson, and William Cartledge. These I consider as *direct* evidence that "An Engineer" has been speaking of matters of which he is grossly ignorant, and I send you (as *presumptive* evidence of that being the case) a list of the engineers who have taken licenses from Mr. Hall, whose opinions, when put in the scale against those of "An Engineer," will most properly preponderate. I send you also lists of engines got to work with Mr. Hall's improvements, of engines in preparation, and of engines contracted for: these will shew whether Mr. Hall's improvements are "about to die natural deaths."

"An Engineer," in speaking of the durability of boilers, says: "I have known boilers last a number of years; in fact, too long for the benefit of the manufacturer!!!" I certainly, did not expect to have heard such a statement as this, in the nineteenth century, from a member of a liberal profession. This appears to be the sore place with "An Engineer;" he is afraid Othello's occupation will be gone, he is alarmed lest his trade of boiler-making should be injured by the increased durability of the boilers of engines working with Mr. Hall's improvements. We know such to have been the fears at Deptford Creek and in Lombard-street, but all enlightened engineers well know that the more perfect and durable steam-engines can be made, and the more the expense of working them can be decreased, the more general they will become, especially for steam navigation. The manufacturer even of boilers will therefore be amply compensated by the increased number required, although each individual boiler last three times as long. It is worthy of remark, that "An Engineer" seems to confine all his fears, as to the increased durability of boilers, to marine engines; for, speaking of the water used in land engines, he says, "in it there is neither mud nor salt"! Where in the world has "An Engineer" put his head during his engineering peregrinations? are there no engines supplied from rivers (running through towns) surcharged with mud and filth from sewers, dying-houses, &c. &c? are there none supplied from canals, whose water is so agitated by boats as to stir up the mud from the bottom, and keep it abundantly in suspension? are there no saline and mineral waters in Staffordshire, Shropshire, Worcestershire, Wales, &c. from which innumerable engines are supplied? he may depend upon it he may extend his fears to the preservation of the boilers of land as well as marine engines.

Can any one do otherwise than admire the kindly feeling of "An Engineer" expressed in the following passages, in which he says, "I wish it to be particularly understood, that in penning the foregoing, I am not actuated by malicious motives, or by any unfriendly feeling towards Mr. Hall: as a private individual, I esteem him; as a



scientific man, I admire his ingenuity, and determination to go forward," &c. I would ask whether this disclaimer of "malicious motives," or this profession of esteem and admiration, are at all borne out either by the misstatements which "An Engineer" has made, or his *manner* of making them? In my opinion, neither the one nor the other do any credit to the "votary," whether "humble" or not, of a liberal profession.

As to the P. S. of the letter, I submit to your readers, whether it is not disgraceful to the writer, either as an engineer or as a man; it runs thus:—"P. S. I have just heard they are removing Mr. Hall's machinery from the Liverpool boats, but cannot vouch for the truth." No doubt, the wish of "An Engineer" was father to that thought, there being not one single word of truth in it; for, so far from Mr. Hall's machinery being removing from the Liverpool boats, they are actively employed on their regular stations, and the proprietors (the St. George Steam-packet Company) are at this moment putting Mr. Hall's apparatus to a pair of new engines as above mentioned, of 180 horse-power, aboard a new boat which was launched a short time ago.

I will now endeavour to satisfy the minds of "practical men," by recapitulating the causes of the saving of fuel and increase of power in engines to which Mr. Hall's improvements are applied. "An Engineer" asks, "Does he mean to infer that it results from the reduction of friction arising from the employment of a less air-pump?" This shews his entire ignorance of the subject on which he has undertaken to write; for, so far from using a smaller air-pump, Mr. Hall prefers (as he states in his specification) a larger air-pump than is usually employed. The united causes above-mentioned are as follow.

1st. The boilers being ever perfectly clean, the heat of the fire is transmitted through them more rapidly and perfectly than when they are coated with scale or dirt.

2nd. The boilers never being blown out, by which a quantity of boiling water is replaced with cold water.

3rd. The greater perfection of the vacuum, owing, first, to there being no air introduced into the condensers, as is the case in injection engines, the injection water always containing a portion of air; and, second, from the water in the condenser, resulting from the condensation of the steam, being reduced to a much lower temperature than that at which the mixture of condensed steam and injection water is usually drawn from injection engines.

4th. There being no injection water to pump out of a vacuum, which requires as much power as the pumping of so much water the height of 30 feet.

5th. The reduction of friction by the ample lubrication of the working piston and air-pump piston, as well as the valves; also the passing of any steam by the former piston being perfectly pre-



vented by the stratum of oil floating upon it, and the air-pump being finely polished, owing to none but distilled water and oil entering into it, instead of being made very rough, as in injection engines, where dirty or otherwise impure water is injected.

6th. The excellent state of repair in which the steam-valves and all the other internal parts of the engines are constantly kept by the ample lubrication.

"An Engineer" states, with great apparent exultation, that as "it is not perhaps Mr. Hall's place to state the faults of his own invention," &c. "I will supply the deficiency." All the faults he then supplies are comprised in the weight of the condensers, and the water passing through them: now, in the engines of the "City of London," where the old condensers were retained as well as the new ones, it must be admitted there was a considerable increase of weight; but if the old condensers had been taken away, (as in future will always be the case,) and if Mr. Hall's condensers be fixed in their places, the difference between the weight of the old condensers with the water they contained, and Mr. Hall's condensers, will not be considerable. "An Engineer" should have had the candour, when treating on this part of the subject, to have mentioned, that an addition of 8 or 10 tons of timber was made to the vessel in repairing and strengthening her: it is, moreover, the opinion of competent judges, that, ultimately, engines upon Mr. Hall's principles will be lighter than injection engines, as there is no doubt but smaller boilers, and of course less water in them, will be required in the former than in the latter.

In conclusion, I beg to express my extreme dislike to anonymous writers, and to say that it is my opinion that "An Engineer," whoever he may be, should have had too much respect for his character to have published in his own name a tissue of statements which I have proved (to use the gentlest phrase) to be incorrect. I hope he will put his name to his next letter, or shrink from the field, and deal no longer in opinions or pretended facts, equally destitute of correctness or foundation.

I am, sir, your obedient servant,

WILLIAM MOREDALE.

Steam Engine Manufacturer.

[We have been compelled to reserve Mr. Hall's letters for another number.]

#### SELECTIONS FROM THE VIAGGI OF PIETRO DELLA VALLE.

##### *The Submarine Fountain of Strofadi.*

"After having been four days at Zante, we departed thence in the evening about the time of vespers, shaping our course for Scios. The first objects I saw in those seas were the Strofadi, no longer, as in days of yore, the dwelling-place of harpies, but only now



inhabited by 50 or 60 Greek Calloyers: their monastery is seen from the sea, being on the largest of the two islets; it has a fine appearance, being built strong, much in the manner of a castle, for fear of the corsairs. In this solitary place, sequestered from the world, the monks lead an innocent and, in my opinion, happy life. They are so amiable and courteous, that every time they perceive vessels passing, they go out in a boat to meet them, and carry, as they did to us, refreshments of fruits and vegetables, which our devotion for the place alone rendered exquisite to the palate. I was informed by these good fathers, that the islands are most fertile, and that, through the diligence of those who cultivate them, they abound in every delicacy that can possibly be desired. They also told me they have there a fountain of most excellent fresh water, which comes, they hold for certain, from the terra firma of the Morea, passing beneath the sea, a distance of more than 60 miles, since, from the spring's mouth, they have often seen things issue which must have come from thence; once in particular, there was cast out of it a drinking cup, made of a gourd mounted in silver."—*Viaggi di Pietro Della Valle*, vol i. p.7.

[Capt. Sir John Franklin, R.N. alludes to this spring of fresh water at p. 323 of our third vol., see also p. 321 of same vol. for a view of the Light-house.—EDITOR.]

#### *A perfect Copy of Livy.*

"I beseech you to inform me what Arabian or Greek books you may desire to obtain from hence. You may rely upon my most willingly bringing any I find, also upon the zeal and diligence with which I will search after them. While I am on this subject, let me communicate a circumstance, which will at once, I apprehend, prove to you both gratifying and displeasing. In the Ottoman library of the Seraglio, (which is of some consequence, because it was that of the latter Greek emperors, with the addition of other books found in other parts of the empire) it is known to a certainty that there was a Titus Livius entire, containing all the Decades. The Grand Duke, some years back, as I have heard was in treaty for this copy, and offered for it the sum of five thousand piastres; but they would not let him have it, either because there was not here any one to negotiate the matter for him; or they did not go the proper way to work; or, may be, because the Turks, from the nature of the offer, suspected the book to be worth so much more, that they would not let it go for the money. We now (that is, our ambassador) have privately made an offer to the librarian of ten thousand scudi, if he will take it, and let us have it, because we are better informed as to the mode of proceeding in such courts, for such is the true manner in these countries of managing affairs. The book was promised, and we should have had it without more ado; but the ill fate of Livy so willed the matter, that this stupid owl of a librarian could not find it; he has been searching for it



many months, and we cannot imagine what, in the *Lord's name*, cau have become of it. See then, my good sir, how lamentable this is, and in what an author is advantaged by passing his life in such laborious works. If our ambassador had obtained it, he would have caused it to be published for the public benefit immediately, which he will do with many other fine Greek and Hebrew works which he has found."—*Viaggi di Pietro Della Valle*, vol. i. p. 179.

[The Fates, assuredly, must be unfavourably disposed towards poor Livy, for this is the second instance in which these so long-sought for and ardently desired Decades might have been retrieved. Every body has heard how a perfect copy once came into the possession of a certain manufacturer, who, little recking of its value, recklessly cut the parchment up to make rackets with, concerning which no small racket was made at the time, by the enraged classic who discovered this nefarious action. As Della Valle wrote the above account the 27th of June, 1615, consequently 220 years have now elapsed since this most valuable book has gone astray. Yet still, perhaps, it would be worth while for the various ambassadors at the Ottoman court to combine their efforts, to recover if possible what would be esteemed by scholars an invaluable treasure.]

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● HALF-PAY SAILORS.

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"On our own element afloat,  
Our foes combined, could never check us:  
We've weathered gales enough at sea;  
But there are storms on shore to wreck us."

*A Run on Shore—By Dennis Drift.*

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*To the Editor of the Nautical Magazine.*

ALTHOUGH not choleric by nature, I have of late been splenetic enough to mark the growing disposition manifested by some people in what regards their mode of valuing the by-gone services of naval officers. Is then the halo of glory shed by the galaxy of stars that shone in the sea-fight so totally eclipsed? are the contents of those Gazettes, once shouted so triumphantly about the streets, thus quickly buried in oblivion? Once a mere glance at the long list of vessels equipped for our destruction by the enemy, and captured by us for the preservation of our country, sufficed to make the bosoms of our countrymen kindle with the glow of patriotic pride, and made them feel for us the warmth of gratitude; because they found that Britain, chiefly by our means, rose to a point of greatness which assured her a preponderance, while her commercial resources gave her riches and influence unprecedented in the annals of the world. Now, is it not a matter still of vital interest



to maintain this proud pre-eminence? what Briton will deny it? Then, how can this be done? The reply is easy, only by keeping up a mighty fleet, and finding men of might to work and fight our vessels in the day of battle. Yet, mark how ungenerously some are now disposed to act towards the most generous of men—the British sailor.

These feelings some will think are solely prompted by *esprit de corps*: well, be it so, our zeal hath ever shone forth steadily; we are a class more proud to show becoming spirit, than ashamed to own it. Although it is indecorous to write with indignation upon matters which deserve to be discussed dispassionately, it is scarce possible to bear with temper the attempts made to disparage us, by those who, with feelings truly unenglish, murmur because, after helping to bring the war to such an honourable close, we have the means allowed us to subsist on shore in peace. Would not common sense suggest the danger of not retaining the services of men so indispensable in the event of war? Yes, leaving feelings of good-will and gratitude aside, good policy alone would dictate the necessity of having such a corps ready to meet the exigencies of the state. How ignorantly some men talk upon this subject! They say, when we want sailors there is never any lack of them. Do they believe fit officers are the growth of a day? that, if they sow the fields with ends of rope-yarns at night, a crop of naval heroes may be gathered in next day; like the old Grecian fable of planted dragons' teeth, which sprang up from the ground a host of armed warriors? Do they not know that our rivals retain their naval officers, and that, if ours were disbanded, it would be no bad hint to those who wish our downfall, to bear down upon us? These are all facts so obvious, such mere truisms, it may be said that it is waste of time to enter on such details; but, unluckily, time must be thus expended with certain people now, in order to convince them not only how ignobly but unreasonably they both feel and speak upon such subjects. They are astounded at the number of claimants for remuneration on the half-pay lists. Well, let them compare, by means of simple addition, the numbers of the foes opposed unto, and conquered by our forces; this possibly may diminish their astonishment, or give us the benefit of all their wonder, when it is placed on the per contra side. We should not have to say, as once did a poor simple-hearted sailor, "I don't know who the devil Peter Contra is, but I always find he is confoundedly against me." The sum to pay claimants so numerous must of necessity be great. Surely the bounty of the country, with reference to the great rise of times, however, cannot be esteemed profuse: officers of the higher grades get wherewithal to maintain them in a stile respectable and comfortable; would I could say as much for the subordinates! But, how can it be otherwise? Economy is to the state a matter of imperious necessity: who can



gainsay that fact? Alas, the lieutenant must receive his allowance from the hand of parsimony; but let it not be given with ill grace, like the alms thrown by a stingy churl to a poor beggar, who must stoop down and grope for farthings in the mud! Let not those noble of soul, and noble by their actions, be ignobly treated. Let those who think half-pay lieutenants sleep on a bed of roses rub their hands along the leaves, and I opine they will find that they repose on a full war-establishment of thorns. Dr. Syntax informs us, if I recollect right, that his "income will not carry double." Certes, Miss Martineau would not advise poor luffs to marry; and, although she knows not what is meant by "*single your sheets*," she would cry out, Ye single men, still in your sheets, sleep single. Ah me, what "double, double, toil and trouble," poor officers bring on themselves by marrying damsels whose only portion is their beauty. I knew a singularly gentlemanlike lieutenant who fell a victim to such want of prudence. After the peace, sad to relate, he was seen reduced to a deplorable condition, wandering about the streets, in forma pauperis, bearing in his arms a squalid little girl, ragged, and seemingly half-famished. Amongst the other acts of his improvidence, he had committed that of coming to reside in the metropolis; a place replete with danger to poor gentlemen.

Many are the dangers which beset poor gentlemen in London, sea-officers especially; to them an idle life becomes soon irksome. Want of employment is the bane of most men; in that word the very doom of heroes appears comprehended. When country squires, athletic and robust, leave off field-sports and outdoor occupations suddenly, and are lulled asleep by indolence, in the lap of luxury, they open up avenues by which gout, palsy, and unnumbered maladies come to assail them, by approaches slow but sure, quoth all the doctors. So is there risk to the moral constitutions of ardent, brave young men, when abstracted from the stimuli which proved to them "the motive and the cue for action." The machinery of such persons requires some great propelling power, to keep the springs from rusting. And it is, alas, a melancholy fact, that gaming is the exciting cause to which they chiefly have recourse. I need not remark with what fatal facility the appliances and means for exciting and fostering this passion are found in the metropolis. The number of altars on which victims are nightly offered up, from the splendid temple to the Druid-like cavern, is astonishing, no less than the facility with which knaves of all ranks get leave to plunder honest men with absolute impunity. Doth it not appear "like a phantasma or a horrid dream," that such a state of things is suffered to exist in England, in the nineteenth century! when we are supposed to be verging to the acmè of civilization; when the millennium itself is thought to be at hand. O shame unutterable! One would as soon expect licensed



societies of gowls and vampires would be tolerated, and colleges endowed not to teach men the eloquence of Burke, but to instruct them in the art of burking. This may be thought mere declamation, founded on an exaggerated view of the evil; but if the details of all the ills thus operated, and the quantum of mischief produced by gaming, could be made known, it would be absolutely horrifying. All young men should read and digest a certain book called Crockford's, or *Life in the West*, not as a romance, but a correct picture of things as they are; for many of the facts recorded there are said to be indubitable. While most men take to play from motives wholly sordid, sailors in general resort to it for a source of excitement.

"Some loath convivial joys, and only prize  
Deeds which excite, and thoughts which agonize;  
Deeming that pleasure's yacht can ne'er advance,  
Save when the keel's impelled by storms of chance."

Infatuated mortals! how can they incur such certain risk? how can they be blind to the odds against which they contend, or be ignorant of the fascinations inseparable from this vice? They may have braved the direst perils in fight, and weathered hurricanes at sea, but there are storms on shore in which too frequently they founder or get stranded. Amongst the young officers of my acquaintance, there were two for whom I had the most sincere regard; one fell a victim to the seductions of a town life, and the other decidedly was on the road to ruin, but escaped. I shall designate them by the fictitious names of Ernest and Lawrence. They were both men of great promise, and of well-tryed valour; as officers, they were nearly equal; the first was the most energetic and enterprising, the latter had the advantage in point of education, science, and accomplishments. They came to London much about the same period, at the close of the war. Ernest had the misfortune to fix his abode in a house established apparently to furnish the accommodation of cheap living with congenial society; but gaming was at length introduced, gradually, and in the most insidious manner: Ernest became a gamester, was victimized, disgraced, and ruined. I must suppress particulars, for cogent reasons; how I deplore his fate, I cannot possibly describe. Lawrence did not actually become a gamester, but he had formed connexions with some very dangerous persons, who betrayed him into great expenses, and doubtless watched an opportunity to plunder him. During my absence from London, he also went somewhere into the country; where, I could not learn. Two years afterwards, in riding through a village, I saw him accidentally, but so changed in his appearance that he was scarcely cognizable; not being able to stay long enough to enter into any conversation with him, I requested he would write me an account of what had induced him to leave London: with this desire he very soon com-



plied. Since then we have regularly corresponded, and, thinking a selection from his letters may perhaps prove acceptable to some of your readers, I shall occasionally communicate them, should you esteem them fit for publication. D. D.

## REFLECTIONS ON COMPULSORY PILOTAGE.

*On the injurious Tendency of the existing Regulations respecting the Pilotage of the British Coast; shewing how it destroys all motive for acquiring skill in the handling and conducting of ships, in difficult situations, by the masters.*

ALWAYS anxious to improve the respectability of that profession which I follow with my brethren, I am induced to offer you some remarks on the stigma which I consider to be thrown on our indispensable nautical skill, on the obligation which we are under by law, upon every occasion when approaching a British harbour, of taking a pilot. It really seems to me quite ridiculous, the extent to which this care of us is carried. Often, before we make the land, we have the pleasure of meeting these our guardians looking out for us, (able men they are, to award them their due,) and I must admit, that, notwithstanding I am condemning the system, there is something extremely pleasing to the commander of an homeward-bound ship, in witnessing the white and red flag, which indicates that he may throw off his responsibility as soon as he likes to do so. One would imagine, that the commanders of the British merchant ships, employed on distant voyages, were all *foreigners*, and quite ignorant of the English coast; such care is taken of us as we approach it. It would really seem that this ignorance existed, by the law imposing the necessity of taking pilots, and which, in its operation, certainly tends to perpetuate such ignorance, by withholding all motive for a young seaman to make himself acquainted with what should be amongst his very first consideration—the coasts and harbours of his own country.

The constant presence of a pilot, in all narrows, has a further bad tendency; beyond the mere local knowledge being wanting, it prevents the acquirement of the knowledge of the proper handling of a ship, which can only be attained by very nice observation of how it is conducted by others; the observer, being desirous of attaining such knowledge, under the notion that, when in charge, he may himself have to put such manœuvres in practice; but, when he sees in his own commander that such practice is not necessary, it being constantly done by a pilot, this motive is clearly wanting. Just suppose a young man joining a ship in the East or West India trade, and let him continue in such occupation till he attains a command, it is more than probable he has never seen the ship handled in a narrow, but by a



pilot; and, except perhaps during the detention caused by foul winds in the Downs or at the Motherbank, never swung at single anchor, except by one, during the whole of his training. If the ship is caught by foul winds, in attempting to get out of the channel, and obliged to put into port, pilots are on the look-out at every spot where she can take shelter, except such open places as Torbay, &c. &c.; and, even there, the boatmen offer their services, to place a ship in a *proper berth*, as they term it, and often, I dare say, are had recourse to.

Compared with a good-practised north-country sailor, who, before he ever goes on long voyages, has been well used to the northern navigation, and his own coast, what sort of sailors does this (*well-piloted*) navigation, in fact, produce? I well remember an instance of a very respectable old gentleman, who had been the whole of his previous life employed from an outport to a port in the West Indies, the same voyage always, his owner providing him all that was requisite, at both ends. This old gentleman was induced to take, at last, another voyage, and I encountered him in a part of the world as foreign to his habits, in every possible respect, as can well be imagined. There, the blunders the old sailor committed were beyond belief: he got his ship on shore two or three times; he was nearly blown out of the water, by some foreign forts, in attempting to pass them at night; the ship ultimately sunk, from the effects of getting on shore; was got up again, and, at last, to complete the business, bottomried for a good round sum, to pay his expenses; and he knew about as much of the nature of accounts, and the means of getting his ship refitted, as I do of the duties of the archbishop of Canterbury; and yet I knew that this was considered a first-rate old West India captain, in the port where he belonged, and, as such, had made a considerable sum of money. And I think this quite a good instance, to shew that, when a man finds every thing done to his hands for him, he is very likely to be careless about the acquirement of what his more active brethren (from necessity) must learn. And I must say, that my experience has brought me in contact with a good many, of more recent date, and younger men, whose nautical skill was evidently, from the same causes, most lamentably deficient. I should be sorry to be understood to libel the whole of the respectable men brought up and confined to these foreign voyages; there are exceptions every where; and there are, fortunately, a great many who go to sea, of such enterprising abilities that they *will* learn, under all possible disadvantages; and great credit is due to them, when they attain skill, under the circumstances which I consider are so unfavourable to its acquirement as the long southern voyages. And is not this, in a great measure, owing to the extent to which the law obliges us to have recourse to pilots? In my opinion, no ship should be



obliged to take a pilot, except in very particular situations, such as *harbours* and *particularly intricate navigations*, as from the Downs (not *Dungeness*) to the river; and even there to be free of pilotage when the ship is commanded by men of certain standing and local experience, which, as respects some channels, is partially conceded to such seamen: and further, if a pilot is taken for ordinary situations, such as Spithead, Plymouth, Falmouth, and such anchorages, I would have the master pay the pilot himself; and a dozen years would not pass, under such regulations, without producing a very great improvement in the nautical skill of the commanders of ships in the foreign trade.

I can see no reason why, with common attention, a young man should not, during his service as a junior officer (or even before) make himself perfectly acquainted with the navigation of the ports of the Channel resorted to for protection; a knowledge so readily attained by the commonest boy belonging to a fishing-smack or coaster: I have, before now, seen the opinion of such boys appealed to, apparently not more than fifteen or sixteen years of age. It will be perceived, that I make no reference to the acquirement of the local knowledge of the ports to the northward, because, in fact, every boy brought up to the sea, on the east and north coast, *does know* the nature of such as he may be in the habit of frequenting.

The adoption of such a regulation respecting pilots would be far from incurring risk to ship-owners and underwriters: for some time, in fact, such is habit, that the masters, beyond a certain standing and time of life, would not venture to take any responsibility they had not been used to; pilots would be resorted to, very generally: but gradually, and perhaps in less than a dozen years, I am satisfied, that the quantity of commanders of ships in the foreign trade would be much improved in nautical skill, and be perfectly confident in the pilotage of their ships, in such situations as, I am presuming, pilots may and ought to be, dispensed with. A very considerable end will be gained to the owner, in the saving effected by the abolition of this charge; which, in a ship I once commanded, (laden with timber,) I think amounted to above £20, merely for conducting her from sea to Spithead, to which place I certainly could have brought her myself without any difficulty. Further, in respect to any increased risk, that may be apprehended to arise from doing away with the necessity of taking pilots, I would suggest, whether it is not reasonable to conclude that a very great proportion of the dreadful loss, both of property and lives, which continually takes place in the harbours and anchorages of the channel, are to be attributed in some degree to the want of this local knowledge on the part of the masters. If a ship drives and loses anchor, even at the Motherbank, there are very few but would be at considerable loss to know what to do with their



ship; and I think that a great degree of security would be gained, even whilst lying in these sort of anchorages, by the confidence which a perfect knowledge of them would impart; which knowledge, the writer of these remarks is pretty nearly as far from possessing as the generality of his brethren, and for the same reasons.

“A SKIPPER.”

### MARINE INSURANCE—ITS ABUSE.

*To the Editor of the Nautical Magazine.*

Kirkcaldy 28th Feb. 1835.

SIR,—In the postscript\* of my reply to Vindex's defence of sea insurance, as at present conducted, I promised to answer his queries to the letter. I am about to redeem my promise, and shall endeavour to be brief, even though running the risk thereby, of not being explanatory. The whole queries in his fourth, paragraph (which would occupy your space unnecessarily to repeat,) admit one direct answer, and my answer is, *Yes*. I must, however, put in a *caveat* to his conclusion. Vindex says, “and yet, if your correspondent is right in his assertion, had there been no sea insurance, only one-fourth of the casualties would have occurred.” So, I aver, had there been no sea insurance, *as at present conducted*. “The dark nights, the narrow seas, the lee shores would have lost all their dangers.” No, they would not, but the vessels would have been better prepared to encounter them, both in point of construction and crews, and to avoid or resist them.” Again, he says, “With equal propriety might he,” (myself,) “allege, that had it not been for that system, the elements would have been stripped of all their terrors: the billow would have been a gentle ripple,—the hurricane, a breeze!” This admits of a direct negative, with which I meet it.

In page 28, Vindex asks, “Do not you think (Mr. Editor,) that sea insurance must still, nay, that it ought to exist.” Whatever may be your opinion, Mr. Editor, I think that it ought to exist. But then, it is sea insurance properly *used*, and not *abused*, which I think ought to exist. But the *abuse* of it has reached such a height, that I fear it is not to be got rid of without sacrificing the *use* also. I mentioned what I considered to be the *use* and *abuse* of it in my last. On the same page he says, “It is in such inevitable misfortunes as these that the underwriter steps in, and saves the widow and orphan from a prison † and the merchant from undeserved bankruptcy.” Now I aver, that three-fourths of the

\* P. 859, No. 37.

† The idea of putting the widow and orphan in prison, is new in the remote regions of Kirkcaldy, if it is not so in the proximate regions of the Royal Exchange.



shipwrecks which took place in 1833 might, under a better method of construction of the vessels, and a better means of navigating them, as to masters and crews, have been easily prevented, and therefore that they were not *inevitable*, and that three-fourths of those which have happened since, might also have been prevented. Oh, says Vindex, "but they have taken place, and therefore how could they have been prevented?" How could the falling down of the roof of the Brunswick Theatre, or of the gallery of Kirkcaldy church, have been prevented, since both happened? Simply, by their having been made stronger, most admirable reasoner. "It is, then, when instead of being considered a heartless gambler or a grasping speculator," (Vindex will be pleased to remember that these are his own terms, and not mine,) "he becomes a sure benefactor, and a liberal restorer to the enterprising of what else they would irretrievably have lost." Vindex has ably conducted his case; but even the ablest advocates are apt at times, in their zeal, to let slip what had better been kept in. Burns says,

"Even ministers they ha'e been ken'd

In holy rapture,

"A rousing whid at times to vend,"

And nail't wi' Scripture."

On page 25, Vindex says, "Besides, whether for good or evil to the country, the greater part of the insurance business is still effected at Lloyd's, because, having no large board of directors to pay, and in the multitude of his counsellors acquiring more information, the private underwriter is able to be a *shade* under the companies." So then it is admitted, that it is for payment of a price, and to make money, that an underwriter figures in this amiable character of a "sure benefactor," and that, notwithstanding the losses of vessels, the business is so lucrative that it will afford to pay private underwriters and large boards of directors! Vindex may think as he likes, but I think this had better, for his defence, have been kept to himself.

It is peculiarly unfortunate to conduct an argument with such an opponent as Vindex, because it is accompanied with this melancholy and depressing reflection, that all arguments, evidences, demonstrations, and proofs whatever, are sure to be thrown away.

It is remarked by Paley, that the rejection of Christianity by the gentile world, and "especially by men of rank and learning in it, is resolvable into a principle which will account for the inefficacy of any argument or any evidence whatever, viz. *contempt "prior to examination."* Now Vindex stands in this very predicament, even by his own shewing. He owns his ignorance of, "the proud, the beautiful science of ship-building, and the quantity of timber necessary to make a safe ship," and yet, after making this admission, and avowing his ignorance, he speaks of the *inefficacy* of the best



constructed ship, (after admitting that he knows nothing about construction!!!) directly in the teeth of accumulated facts to the contrary, with all the authority and assumed infallibility of an oracle. To such an individual, it is clear as the light of heaven, that no proofs or demonstrations of any kind can be of any use. But although I am quite sensible that all attempts to make any impression on Vindex are visionary and hopeless, I will, for illustration of the principle to your readers, appeal to a test of argument that with many has great weight.

To shew the hostility of underwriters to safe ships, I will bet Vindex one hundred shillings against one shilling, (were I rich enough to pay in case of loss, I would make it pounds,) that the Society for conducting Lloyd's Register of British and Foreign Shipping, will not look at a set of models for improving the construction of merchant ships, and report their opinion on them, although they should be submitted to them free of every expense whatever. If Vindex will take the bet, I will be happy to hear from the secretary, and, to remove any doubt as to payment, I hereby lodge the money in your hands. Further arguments and evidences would only be wasting your space, and your reader's time. But will Vindex, who is so well informed on the practice of sea insurances, be so good to as inform us, to what it was owing that, on the 10th March 1824, when an inquiry was proposed to be made into the system then in practice of classifying merchant vessels, out of 679 subscribers to Lloyd's who voted on that occasion, 327 voted against allowing any inquiry into the system whatever, leaving a majority of only 25 for the inquiry. Why did the Committee of Lloyd's, previous to that meeting, produce a general meeting of subscribers,—“gratuitously and unsolicited,—*a report having for its object to dissuade the subscribers from entertaining the question at all*; and decrying—what? Inquiry!!!” (see Marshall on classification of shipping, page 52.) Will Vindex, who is so able, answer these questions? I conclude by referring Vindex, should his mind be, as he professes, really open to conviction, to a perusal of the true causes of wrecks of British shipping,—of the literary notice of Lloyd's register of British and foreign shipping, in the same number of the Nautical Magazine in which his defence of sea insurance appears, and to a careful perusal of an article “on the frequency of shipwrecks,” in No 122 of the Edinburgh Review, published since I last wrote you: light on the subject, you will observe, Mr. Editor, still beaming from modern Athens. I decline saying more, because, first, I consider it must be occupying your space uselessly—and second, because it is *reform* that is wanted; and, until the public take up the subject, the abuses, great and intolerable as they are, will never be remedied. “The abuses will never be removed by those who flourish by sustaining them.” But



the mind of the nation must be opened on this great and national subject ; and great is the truth, and it will ultimately prevail.

I am, with respect, Mr. Editor,

Your most obedient servant,

JAMES BALLINGALL.

[We annex to Mr. Ballingall's letter the following extract, with the queries by which it was accompanied, as it is so closely connected with the foregoing subject.]

*" Merchant Seamen's Orphan Asylum.*—On Wednesday week, the eighth anniversary of this highly useful charity was celebrated at the City of London Tavern. The Society was formed for the purpose of receiving within its walls the orphans of seamen in the merchant service, who had perished in the exercise of their vocation. The institution has met with the warm support of many of the leading mercantile firms in the city, and, from its connection with the commerce of the country, is one deserving of more than ordinary attention. Sir James Graham took the chair. There were present—Lord Sandon, M.P.; Sir P. Durham, M.P.; Mr. G. F. Young, M.P.; Mr. D. Barclay, M.P.; Mr. Gould, Mr. J. D. Powles, and many others connected with mercantile matters. Sir J. Graham gave twenty guineas; the Trinity House, £50; Capt. Woolmer £10; Capt. Alsager, M.P., £10; Mr. Ingham, M.P., £5; &c. In the whole, about £500 were announced."

We have recorded in a former page the history of this Society, and our opinion of its highly useful labours, and which every one must approve of; but here are the queries :—

- " If a general reform were established of the whole system on which our mercantile marine is now conducted, with regard to Insurance, to the equipment and build of the vessels, including the mode of registering, and also the qualifications of their officers and the number of the men employed in each vessel; would the amount of our wrecks be reduced, and the calls on the Orphan Society be less for an obvious reason, and would the public suffer thereby?"
- " Would the individuals, who were present at the above meeting, and many others, whose names do not appear, who were present at this and the seven former meetings, have better employed themselves and their money by bringing about such reform, than, by adopting the course they did, thereby encourage the present system?"
- " Do the Merchant Seamen's Orphan Asylum, and all other asylums for a similar purpose, meet the demands upon them? and, provided they do so, is it better to prevent an evil, or to allow its growth for the sake of exercising a perpetual but ineffectual cure?"

We must leave these queries to our readers; perhaps some of them may favour us with answers to them. But since they were written, we have learnt that a Committee of the House of Commons is inquiring into one of the branches of this important subject.



TABLE XVIII.

*For reducing Florence fathoms to English feet, and English feet to Florence fathoms.*

1 Florence fathom = 1·9128566 English foot.

1 English foot = 0·5227784 Florence fathom.

Fathoms or Feet.	English Feet and Dec. parts.	Florence Fathoms and Dec. parts.	Fathoms or Feet.	English Feet and Dec. parts.	Florence Fathoms and Dec. parts.	Fathoms or Feet.	English Feet and Dec. parts.	Florence Fathoms and Dec. parts.
1	1·913	0·523	38	72·689	19·866	75	143·464	39·208
2	3·826	1·046	39	74·601	20·388	76	145·377	39·731
3	5·739	1·568	40	76·514	20·911	77	147·290	40·254
4	7·651	2·091	41	78·427	21·434	78	149·203	40·777
5	9·564	2·614	42	80·340	21·957	79	151·116	41·300
6	11·477	3·137	43	82·253	22·479	80	153·029	41·822
7	13·390	3·659	44	84·166	23·002	81	154·941	42·345
8	15·303	4·182	45	86·079	23·525	82	156·854	42·868
9	17·216	4·705	46	87·991	24·048	83	158·767	43·391
10	19·129	5·228	47	89·904	24·571	84	160·680	43·913
11	21·041	5·751	48	91·817	25·093	85	162·593	44·436
12	22·954	6·273	49	93·730	25·616	86	164·506	44·959
13	24·867	6·796	50	95·643	26·139	87	166·419	45·482
14	26·780	7·319	51	97·556	26·662	88	168·331	46·005
15	28·693	7·842	52	99·469	27·284	89	170·244	46·527
16	30·606	8·364	53	101·381	27·707	90	172·157	47·050
17	32·519	8·887	54	103·294	28·230	91	174·070	47·573
18	34·431	9·410	55	105·207	28·753	92	175·983	48·096
19	36·344	9·933	56	107·120	29·276	93	177·896	48·618
20	38·257	10·456	57	109·033	29·798	94	179·809	49·141
21	40·170	10·978	58	110·946	30·321	95	181·721	49·664
22	42·083	11·501	59	112·859	30·844	96	183·634	50·187
23	43·996	12·024	60	114·771	31·367	97	185·547	50·710
24	45·909	12·547	61	116·684	31·889	98	187·460	51·232
25	47·821	13·069	62	118·597	32·412	99	189·373	51·755
26	49·734	13·592	63	120·510	32·935	100	191·286	52·278
27	51·647	14·115	64	122·423	33·458	200	382·571	104·556
28	53·560	14·638	65	124·336	33·981	300	573·857	156·834
29	55·473	15·161	66	126·249	34·503	400	765·143	209·111
30	57·386	15·683	67	128·161	35·026	500	956·428	261·389
31	59·299	16·206	68	130·074	35·549	600	1147·714	313·667
32	61·211	16·729	69	131·987	36·072	700	1339·000	365·945
33	63·124	17·252	70	133·900	36·594	800	1530·285	418·223
34	65·037	17·774	71	135·813	37·117	900	1721·571	470·501
35	66·950	18·297	72	137·726	37·640	1000	1912·857	522·778
36	68·863	18·820	73	139·639	38·163	2000	3825·713	1045·557
37	70·776	19·343	74	141·551	38·686	3000	5738·570	1568·335



## MISCELLANEOUS INTELLIGENCE.

## THE EUPHRATES EXPEDITION.

Unfortunately for us, the mail from Malta arrived just too late to render the information it brought of any use to our last number, and we fell, like others, into the error that this most interesting of all expeditions had been cut off without a chance of its being even tried. We rejoice to say, that matters are very different, as will appear by the following extract from the Malta Gazette of the 3d June. We must refer our readers to our map of the Euphrates in our April number, for an idea of the position of places alluded to both here and in the papers of Captain Chesney, which we shall resume in our next.

"By His Majesty's brig *Columbine*, Commander Henderson, from the *Orontes*, we have received some account of the Euphrates Expedition and its first proceedings. Col. Chesney and the whole of the officers and men were quite well on the 3rd of May: they were encamped on a spot near the mouth of that river, to which they have given the name of *Amelia Island*.

"The *George Canning* was towed by the *Columbine* almost the whole way from Malta to the bay of the *Orontes*, where the expedition anchored on the 3rd of April. On the 6th the landing of the packages and stores was commenced by means of a hawser, which was extended over the bar from the *George Canning* to the shore, a distance of 1200 yards, by the officers and men of the brig of war. Captain Henderson likewise stationed Lieut. Thompson and Mr Pritchard with 25 men at the camp established on shore; and every thing being thus well disposed, nearly two-thirds of the whole of the equipments were landed by the boats of the two ships, eight in number, during the first week. The only accident that happened was the temporary loss of a cask, containing the valves and other parts of the steam-engines, which by the breaking of the slings sunk to the bottom; but it was soon recovered by part of the apparatus of the diving-bell.

"The attention of the officers of the expedition was then directed to other objects: to Captain Estcourt was allotted the repair of the road to the Euphrates; to Lieut. Murphy and a party, the survey of the bay of the *Issus*; to Lieut. Cleaveland, the landing of the stores and the preparation of the caravans; whilst Col. Chesney, and Lieut. Lynch of the Indian navy (who had been waiting and preparing for the expedition some time in Syria) were employed in soliciting aid from the authorities of the country, and making arrangements with the Arabs near Bir on the Euphrates, whither Lieut. Lynch proceeded, to receive the first section of light materials, which would have arrived there about the 17th, if it had been possible at once to procure camels.

"During the second week the weather was so boisterous as to retard the landing a good deal, and the gig of the *Columbine* was upset on the bar with Capt. Henderson and four men in her, who were all happily saved by a boat which immediately pushed off from the *George Canning*. But notwithstanding the bad weather, by the 21st every thing was disembarked except a few coals.

"Col. Chesney had now to contend with difficulties which were quite unexpected. The party left England in the fullest persuasion that the promises which had been made to the British government, of support and co-operation on the part of the supreme authorities, would be fulfilled. A firman had been issued by the Sublime Porte, authorizing the navigation of the Euphrates; nor would so expensive a preparation have been made for the shores of Syria, without the concurrence also of His Highness the Pasha of Egypt; but none of the



people could be induced, even by high pecuniary offers, to afford either their labour or the means of transport. It was clear, therefore, that no orders had been given on the subject, and Col. Chesney consequently paid a visit to Ibrahim Pasha, who was just arrived at Tripoli from Egypt; but neither did he feel himself empowered to use his influence, until further instructions should be received from Mehemet Ali. Fortunately, however, the command of the expedition has been entrusted to an officer whose determination and promptitude will admit of no delay; no circumstances, however discouraging, short of physical obstacles, will prevent his carrying into effect the orders he has received from his Government. By the able and zealous assistance of Capt. Henderson, he has disembarked in safety his brave little band, with every thing that is necessary to further the objects of the undertaking; and when the Columbine left the coast of Syria, he was endeavouring to purchase a sufficient number of bullocks to transport the first division of materials to the river Euphrates, where it was expected he might arrive about the 9th of May. Notwithstanding therefore his first disappointments, as no insuperable difficulties to impede his progress were foreseen at our last dates, the next letters from Col. Chesney may announce that the steamers are afloat near Bir, where the people are anxious for the arrival of the expedition, and ready to give it assistance. Indeed, from the coast onwards, a considerable interest was manifested for the success of the project; but such is the natural apathy of the inhabitants of these countries, and so new are they to the dominion under which they now live, that they seem to fear almost their own acts, unless set in motion by their own authorities.

"The Columbine, we believe, brings despatches for His Majesty's Government, reporting the first steps of the expedition, and complaining of the necessity Col. Chesney finds himself reduced to, of depending altogether upon his own resources. Fertile as his mind seems to be in expedients, and persevering as he has shown himself in the service to which His Majesty has been pleased to call him, we still trust, that as soon as the sagacious Pasha, Mehemet Ali, heard of the arrival of the expedition, His Highness lost no time in transmitting to Syria the necessary directions to countenance and support it. To the unhappy visitation under which the Egyptian possessions at present labour, and which must occupy all the energies of their ruler, can alone be attributed his inadvertence to the objects of the navigation of the Euphrates,—objects which, his penetrating mind will not fail to perceive, must carry with them, in their success, the augmentation of his resources, the improvement and opulence of the dominions lately subjected to his sway, and draw closer his connexion with a great commercial and maritime power.

"The estuary of the Orontes appears to have been a happy selection for the disembarkation of the expedition; and the success with which it has been effected may be a favourable omen of its future progress. Amelia Island is described as presenting a scene of high interest. The people of the surrounding places constantly visited the camp, and viewed with wonder and amazement the operations of our sailors and mechanics: the landing of the boilers and large pieces of the iron steam-boats and engines, as well as the fishing up of the heavy cask from the bottom of the sea, caused the greatest possible surprise. In truth, the various costumes, the mixed nature of the stores, the general activity which connected the ships with the shore, the beautiful scenery, with the crest of Mount Cassius towering above to the height of 5618 feet in the back-ground, formed altogether a striking picture on the ancient coast of Syria."



## CHRONOMETERS.

Mr. Editor,

84, Strand, July 22, 1835.

In your last number, you notice our having the original Chronometers by Harrison in our possession, for the purpose of restoring them; and likewise that they are the same for which he received a reward of One Thousand Pounds. We beg leave to state, that Harrison received at different times a sum amounting to £22,850 for his Chronometers: and in the year 1749, the Royal Society presented him with the Copley medal. He made four Chronometers; and a description of the last being the most perfect, was published by order of the Board of Longitude, whilst the "Father of all Chronometers," as you are pleased to style the first, was not noticed either by the Board or Harrison.

We shall have great pleasure in presenting you with some description of this curious machine, and we have besides some other matters to communicate to you.

Being desirous that those of your readers who are unacquainted with the various parts of a Chronometer, should know something about them, with your permission we will shortly forward you a diagram, which will explain them; for, when speaking of a balance spring, some of your nautical friends would perhaps be as much at a loss to understand what part of the Chronometer we alluded to, as we should be, were they to write to us about tacks and sheets.

We are, &amp;c. &amp;c.

ARNOLD and DENT.

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**PIRATES ; the Panda.**—In our last volume (p 696-7, and 760) we recorded the departure from this country of H.M.S. *Savage*, Lieut. Loney, to convey some pirates to Salem that had been captured by the *Curlew*, Com. H. D. Trotter, on the coast of Africa; and we also extracted from the *Salem Gazette* an account of the arrival there of the *Savage*, and some particulars of the atrocious outrage which these wretches had committed on the Mexican, an American vessel. It is a remarkable circumstance, that the Mexican was lying at Salem on the arrival of the *Savage*, the same captain and mate being on board; who were consequently detained, to give their evidence on the trial. This trial has since taken place at Boston, and, in pursuance of the sentence, five of these pirates, consisting of Pedro Gibert, (the captain,) and four seamen of the late Spanish schooner *Panda*, were executed there on the 11th of June, after a reprieve of five months. The piracy was committed on the Mexican in September, 1832; and the *Panda* was captured by the *Curlew* in June, 1833. The mate, Bernardo de Loto, supposed to be a relation of the celebrated pirate of the same name, who suffered some time ago at Gibraltar for his atrocious acts on board the *Morning Star*, has been further reprieved for 60 days, and it is expected will be pardoned, on account of his having formerly saved the crew of an American vessel, when in command of a Spanish merchantman. Omez, the carpenter of the *Panda*, has also received a further respite for 30 days, in consequence of his having become insane.

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A splendid marble bust, from the *studio* of Chantrey, of Henry, the first Lord Viscount Melville, has been placed in the Library of the Museum at Haslar Hospital. This beautiful work of art, which is almost a breathing representation of the original, is the result of a subscription of the Naval Medical Officers, and is placed there, as was originally intended, to mark the high sense of gratitude felt by the Naval Medical Department towards that distinguished nobleman, through whose acumen & discernment the Naval Establishment acquired additional consequence and rank. It was his lordship who first corrected the want of talent in the Medical Naval Department, which had



been shown in the early part of the revolutionary war, contrasted with that great proficiency which it now so eminently displays. The following inscription is on the pedestal :—

Hanc  
Quam spectas imaginem  
HENRICI VICE COMITIS DE MELVILLE  
Rerum Nauticarum Officio  
Præpositi  
Medici Chirurgique Navales  
Ob eximiam in eorum  
Ordinem Benignitatem  
Grati  
P

A very splendid Monument (by Knight, 76, Bishopsgate-street, London), is just erected at the Dock-yard Chapel, to the memory of the late Rear-Admiral Sir Michael Seymour, Bart. K.C.B. who was Commissioner of this Dock-yard previous to his appointment to the command on the South American station, where he died on the 8th of July, 1834. The same is erected "as a sincere testimony of unfeigned respect, by the Captain, Officers, Seamen, and Royal Marines, of his flag-ship the *Spartiate*."—*Hunts. Tel.*

**LAUNCH OF THE HERMES.**—On Friday, the 26th of June, was launched at his majesty's dock-yard, Portsmouth, the *Hermes*, steam-vessel of 140 horses power, intended for the service of a Mediterranean packet. This beautiful vessel was constructed by the present surveyor of the navy, captain Symonds, and, as far as a judgment can be formed from the mere inspection of a vessel's form, we may fairly predict that his well-earned fame will not be injured by the performances of the *Hermes*, either under canvass, or when propelled by steam. She has accommodation for more than thirty *cabin* passengers; her fitting is chastely elegant, combining neatness and comfort, while due regard has been paid to the strictest economy. We think the surveyor, who was present at the launch, might view her with honest pride, as a *practical* refutation of those bold assertions, so diligently circulated, of his deficiency in science. The filling-in and trussing of her frame are of a novel kind, the entire efficiency of which method needs no other proof than the mention of two facts, viz. that in launching, the *Hermes broke nothing*, and that since she has been afloat, not one drop of water has penetrated to the inside of her, but she is as dry at the present moment as while she was on the blocks; two circumstances which she may challenge the records of the navy office to produce in favour of any other vessel. Her principal dimensions are the following.

	As ordered.		As built.	
Length between the perpendiculars . . . . .	150 ft.	0 in.	150 ft.	1½ in.
Length for tonnage . . . . .	128	0	128	1½
Breadth extreme . . . . .	32	9	32	9
for tonnage . . . . .	32	5	32	5
Depth in hold . . . . .	17	0	17	0½
Burthen in tons . . . . .	715 ¾	No.	716 ¾	No.
Launching draught of water {	Forward . . . . .		7 ft. 10 in.	
	Abaft . . . . .		8 2½	

**PLYMOUTH, THURSDAY, MAY 7.**—On Tuesday, the 28th, the *CLEOPATRA*, 26 guns, was launched from this dock-yard; the ceremony of christening was performed by Miss Savage, daughter of Captain Savage, of the Engineers. Launches happen so frequently here, that they are no longer considered a novelty, unless it be the launch of some huge fabric like the *Royal William* or *Romney*. However, on the present occasion a considerable number of strangers



as well as natives arrived in the dock-yard, to view the little frigate take the water; and about half-past six o'clock the dogshore was dropped, the sparkling juice of the grape was dashed against the stem, and Cleopatra forsook the land, and flew to the ocean amidst shouts of joy and acclamation. She is a ship of the Vestal's class, and will soon sail for Sheerness, to be fitted for commission.—*Devon. Tel.*

**MENDOZA'S TABLES.**—Mr. Coleman, who may be well known to some of our readers as the talented author of a work on navigation, has handed us the following Errata in the second edition of Mendoza's tables, improved and published in 1809, which he has just discovered:—

Table II. page 140, (bottom,) 54° 3' for 90885 read 00885

do. 54 4 .. 90653 .. 00653

do. 54 5 .. 90420 .. 00420

do. 54 6 .. 90188 .. 00188

do. 54 7 { These are the degrees and miles  
to commence with 9, as may be  
seen by the log's decreasing.

Table I. and III. p. 163 (bottom) 54° read 65°

.. IV. 54 .. 65.

#### ERUPTION OF THE VOLCANO OF CONSEQUINA, GUATIMALA.

We are enabled to lay before our readers the following translation of an official document from the Governor of Nicaragua, relative to this event. We may premise the statement by saying, that the volcano in question is situated on the southern promontory of the entrance of the gulf of Conchagua or Fonseca, distant about 180 English miles from Nicaragua.

“Office of the Supreme Government of the state of Nicaragua.

“To the Minister of Home and Foreign Affairs.

“By the last post which could leave this city till the 25th of January last, I should have transmitted you an account of the eruption of the volcano of Consequina, had it not been necessary to wait for accounts from all the towns which have suffered, of the disasters produced by the eruption; but now that the documents are drawn up, my government is desirous of informing the Union what has been noted in Nicaragua of the ravages that were suffered on the days of the earthquake, which with great reason produced so much consternation among the inhabitants.

“On the morning of the 20th of January, the people of the village of Masaya heard slight sounds of the volcano to the N. W. and those of the town of Viego saw a large body of fire rise vertically in the air, and incline afterwards to the north: the same was observed in the department of Segovia, accompanied by reports, and some motion of the ground.

“In this capital, and in the department of Grenada, the phenomenon was not noticed till the morning of the 23d, when the eruption took place with such violence, that from one o'clock the sky became gradually obscured more and more, till eleven in the morning, when darkness prevailed to such a degree as had never before been known; at the same time dreadful explosions going on, and a copious fall of lava, which covered every thing in its way. An event so alarming, in proportion as it came on, produced feelings of the most awful kind in the minds of the people, who attributed it to the Divine wrath; and while they ran in crowds to the churches to supplicate mercy, the soldiers of the garrison of this city contrasted, with discharges of artillery and musketry, the general panic. By the direction of the government, at the recommendation of some



well-informed persons, attempts were made to avert the danger by these means, and by the ringing of bells in all the churches.

"It is astonishing with what rapidity the whole atmosphere of Nicaragua became obscured on that day (23d) as far as this department, which lies to the S.W. The darkness by degrees extended beyond Pandayme, where at three in the afternoon it was so dark that the village of Rivas could not be seen. In the department of Grenada, the towns of which suffered in the same manner as those of Leon and Matagalpa, in Segovia, which endured a night of 56 hours.

"Happily not a single person has perished; and although in the vicinity of the mountain which exploded there were some cattle, the devastation does not appear likely to be so great as was expected at the time of the explosion. The sandy ashes which continued to fall in some places for some days afterwards, and where the herbage was flourishing, appear to nourish the ground, and there is a promise of a most favourable harvest.

"The agitation of the atmosphere in a boisterous season occasions disagreeable sensations to the people, and annoys animals, for the dust of the trees in the forests clouds the horizon, so that in the plains, on the lakes, or in the fields, the sight cannot penetrate beyond a league, all objects beyond it being concealed.

"I am commanded to relate to you the foregoing from this government, for the information of the supreme of the republic, requesting you at the same time to accept my distinguished consideration and regard."

To the foregoing we may add an extract of a letter containing a short account of what was experienced in Grenada, about 40 miles nearer to the volcano than Nicaragua. We have been favoured with some of the dust which fell on the deck of a small schooner at anchor off the Man-of-war Cays, in lat. 13° N. about 300 miles in a direct line from the volcano.

On Thursday night, 22 January, about midnight a noise like minute-guns was heard, accompanied by an earthquake, which shook all the houses, and made the doors and windows shake, and keep up a clattering noise. This noise and earthquake lasted until about 9 o'clock the next morning; about 5 in the morning the sky became overcast, and continued so until eleven, it having been previously a beautiful clear star-light night, without a breath of wind. At eleven the gloom increased, and at noon it became quite dark, so that nothing could be distinguished, occasioned by a thick cloud of dust falling. This thick darkness continued until 4 p.m. when a light breeze sprung up from the N.E. The darkness then gradually decreased, and was quite dispelled by the following morning. The dust continued to fall in small quantities for three days.

"On Monday the 26th there was a light drizzling rain, which laid the dust. In the village of Mugnuvy (about 10 or 12 leagues west of Grenada) (Nicaragua) the dust fell 18 inches thick on the ground; and a leopard came into the village from the adjacent mountains, seeking shelter, and was killed by the natives." The noise appears to have been distinctly heard at Carthagena, Jamaica, St. Domingo, Old Providence, and St. Andrews; and it is remarkable that on the return of H.M.S. Thunder to Jacquemel, that reports were prevalent throughout the town that she had engaged and captured a pirate during her absence; and it was with difficulty the opinion could be removed. The noise of the eruption had been mistaken for the reports of guns, and the Thunder, having sailed on the 19th, was known to be on the coast.

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**DESTRUCTION OF THE LATE CITY OF CONCEPCION, and Village of Talcahuana, by an Earthquake.**—We learn by Captain Whiton, of the ship Coral, the melancholy intelligence of the entire destruction of the city of Concepcion and Talcahuana on the 20th February:—



Concepcion, a city containing about 25,000 inhabitants, is one complete heap of ruins; the houses being built chiefly of brick, there is but one solitary building left standing within the limits of the city, and for leagues round. The shock came from the S. E. direction, and in its way destroyed every thing. A number of small Chilian towns have been heard from. Salea, Armadeau, Lingus, Euyas, Pensul, St. Carlos, Vallaya, and Armysles were destroyed.

The number of lives lost could not be correctly ascertained. A new cathedral building in Concepcion buried 20 workmen in its ruins. There were but two American ships in the harbour of Talcahuana at the time, besides the Coral, the Milton, and the Nile. A small schooner was driven from her anchorage, and drifted over the town.

Chili has been subject to earthquakes ever since its settlement by the Spaniards. The city of Concepcion was originally built three leagues to the north of its present site, but having been twice destroyed by earthquakes, the inhabitants removed to the south, and built the city on its present location. Concepcion is represented, by those who have visited it, as a delightful place, the inhabitants high-minded, and honest in all the relations of life.

**COURT MARTIAL.**—Lieut. G. C. Stovin, late in the command of the Algerine brig, will shortly be tried by a court-martial, on board the Victory, in this harbour, on a charge of repeated acts of drunkenness. It will be recollected that Lieut. Stovin, on his passage to the Cape of Good Hope, was displaced in the command of his brig, and put under arrest by Mr. Cardew, the mate, and third in seniority in the vessel; who, having assumed the command, carried her into the Cape of Good Hope. This novel proceeding, in the British navy, created so much difficulty in the East Indies, that Sir John Gore took every person out of her, and brought them to England; nor did even a court-martial take place; which had been ordered at Bombay on Lieut. Stovin, on the same charges which he is now to be tried for. The proceedings cannot but be interesting.—*Hants. Tel.*

**IMPRESSMENT OF SEAMEN.**—The ship-owners and seamen of England will learn, no doubt, with great pleasure, that the present ministry, to whom Sir James Graham's bill was transferred, have struck out all those clauses which went to give power, by legal enactment, to the exercise of impressment. The bill in its present state omits all this, and consists only of bounties, rewards, and inducements to voluntary enlistment, with limitation of service, and protection for a certain time afterwards; all which will be hailed by our seamen as a vast improvement.

**LIGHT DUTIES.**—The following has appeared in a late London Gazette:—“Vessels belonging to the United Kingdom, and also all foreign vessels which may be driven by stress of weather to seek shelter in any British or Irish port, (excepting such as shall break bulk, or take in cargo in such port, and excepting also such as shall remain in port longer than the state of the weather or the reparation of damage may render unavoidable,) shall not be chargeable with any light or other duties payable to the corporation of the Trinity House of Deptford Stroud; and no vessel shall be chargeable with the duty for any light (such duty being payable to that corporation) which such vessel may pass, or receive benefit by, when driven out of her course by stress of weather. That all vessels, smacks, and boats, belonging to the United Kingdom, while actually employed in catching fish within soundings, shall be exempt from light and other duties payable to the corporation of Trinity House aforesaid; but which exemption shall not extend to vessels which are employed in carrying to port fish caught by other vessels, or otherwise procured.



## Naval Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—JULY 21ST, 1835.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, OCEAN, 80.

ASTREA—Falmouth.

CAMELEON, 10—Portsmouth station. 16th July arrived at Falmouth, from Santander.

EXCELLENT, late BOYNE—Portsmouth, for the practice of naval gunnery.

MAGICIENNE, 24—Portsmouth, fitting, in the basin; and as she is ordered to be fitted with Gordon and Co.'s chain messenger, it is not probable that she will be ready for sea under a fortnight or three weeks. Many of the Harrier's men have entered for her. To be ready for sea by 10th of August.

OCEAN, 80—Sheerness.

PIKE, 12—14th July sailed on secret service.

PORTSMOUTH, *Yacht*—Portsmouth.

PRINCE REGENT *Yacht*—Deptford.

ROYAL GEORGE *Yacht*—Portsmouth.

ROYAL SOVEREIGN *Yacht*—Pembroke.

RUSSELL, 74—Sheerness, fitting.

SAN JOSEF, 110—Hamoaze.

SEAFLOWER, *Cutter*, 4—27th June sailed for a cruise off Brighton; 10th July returned to Portsmouth.

SPEEDY, *Cutter*—Portsmouth station, ordered to Cromarty.

VICTORY, 104—Portsmouth.

WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

BARHAM, 50—1st July sailed for north coast of Spain; 9th at St. Andero. The Barham, for whose recall a steam-vessel has been dispatched, will proceed with the Earl of Durham to Constantinople; at which city his Lordship will commune with the British Ambassador, and proceeding thence to Sebastapol, will be landed at Odessa by the Barham. His Lordship will journey through the Crimea to St. Petersburg, and the Barham, after visiting the Persian shores, will return through the Dardanelles.—*Hants. Telegraph*.

CASTOR, 36—9th July at St. Andero.

CLIO, 16—9th July at St. Andero.

HASTINGS, 74—In the Tagus 5th July.

LEVERET—28th March arr. at Lisbon from Madeira; 6th May arrived at Plymouth.

NIMROD, 20—10th July north coast of Spain.

PEARL, 20—6th July arrived at Spithead, and sailed for north coast of Spain.

RINGDOVE, 16—5th May at Santander.

ROYALIST, 10—5th July in the Tagus.

SARACEN, 10—North coast of Spain.

STAG, 46—5th July left Lisbon for Santander.

TWEED, 20—In the Tagus 5th July.

VIPER, 6—6th July in the Tagus.

WATERWITCH, 10—19th April arrived at Lisbon.



## MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St.V.—7th May at Malta.  
 BLAZER, St.V.—12th April, arrived at Malta.  
 CALEDONIA, 120—2d June at Piræus.  
 CANOPUS, 84—2d June at Piræus.  
 CEYLON, 2—Malta.  
 CHILDERS, 16—2d June at Piræus.  
 COLUMBINE, 18—1st April arrived at Beirut, and sailed for Suadia.  
 EDINBURGH, 74—2d June at Piræus.  
 ENDYMION, 50—11th April left Malta for Algiers.  
 FAVORITE, 18—30th April at Tripoli.  
 JASEUR, 18—7th May at Malta, from Gibraltar.  
 MALABAR, 74—2d June at Piræus.  
 MEDEA, 6—2d June at Piræus.  
 ORESTES, 18—22d May at Athens.  
 PORTLAND, 52—2d June at Piræus.  
 REVENGE, 78—2d June at Piræus.  
 SAPPHIRE, 28—27th May left Spithead for the Mediterranean, touching at Falmouth.  
 SCOUT, 18—17th May at Gibraltar.  
 THUNDERER, 84—2d June at Piræus.  
 TRIBUNE, 24—Malta.  
 TYNE, 28—6th June at Gibraltar.  
 VERNON, 50—2d June at Piræus.  
 VOLAGE, 28—Jan. at Constantinople, 7th Feb.

## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—Feb. off Sierra Leone. Expected home.  
 BRITOMART, 10—28th Feb. off Old Calebar river.  
 BUZZARD, 10—19th April at Sierra Leone. The Buzzard, after an action of three-quarters of an hour, captured a slaver, El Formidable, of eight guns and sixty-six men, with seven hundred slaves on board. Buzzard six men wounded; slaver six killed, eighteen wounded.  
 CHARYBDIS, 3—Sierra Leone.  
 CURLEW—28th Feb. at Sierra Leone.  
 FAIR ROSAMOND, *Schooner*—Feb. at Ascension.  
 FORESTER—Captured a Spanish brigantine in the Bight of Biafra on the 20th March, with two hundred slaves on board, who arrived safe at Sierra Leone, with the exception of ten who died on the 1st May. The Forester, which had been waiting in that river for her prize, had quitted the previous day. 19th April at Sierra Leone.  
 GRIFFON, 3—Feb. in the Gambia.  
 LYNX, 10—28th Feb. at Prince's Island. Expected at Sierra Leone.  
 PELICAN—11th April arrived in the Gambia; 13th sailed.  
 PELORUS, 18—28th Feb. at Prince's Island. Expected home.  
 ROLLA, 10—21st April arrived in the Gambia; 24th sailed.  
 THALIA, 46—11th April in Simon's Bay.  
 TRINCULO, 18—2d May left St. Helena for Ascension.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—20th Feb. arrived at Bombay; 12th March sailed for Trincomalee.  
 ALLIGATOR, 28—27th November left Sydney for Madras.  
 ANDROMACHE, 28—8th Feb. arrived at Bombay from Colombo; 17th March at Bombay.  
 CURAÇOA, 26—Arrived on 12th July at Spithead, from Bengal, having on NO. 42.—VOL. IV.  
 board the late Governor-General of India, Lord Cavendish Bentinck, and suite. His Lordship landed the same day in renovated health, the voyage having had a most beneficial effect on him. The Curaçoa left the Hoogly on the 21st March, leaving there the Orient, Duchess of Anglessey, and Larkins, India-men. 14th July sailed for Chatham, to pay off.



HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th Feb. left Sydney for Twofold Bay.

IMOGENE, 18—Arrived on 5th July from the East Indies, having been upwards of four years in commission. The Imogene left Bombay on the 7th March, Point de Galle on the 23d March, Cape of Good Hope 20th May, and Ascension on the 7th June. Sailed for Plymouth on 8th July to be paid off.

MELVILLE, 74—Vice-Admiral Sir John Gore, K.C.B. 4th July arrived at Spithead. Left Bombay 17th March. On her arrival the Admiral struck his flag. 6th July moved into harbour, to pay off.

RALEIGH, 16—22d Feb. off Point de Galle, Ceylon.

RATTLESNAKE, 28—27th March sailed for East Indies, 9th April arrived at Madeira, 14th April sailed; 4th May had arrived at Rio Janeiro.

ROSE, 18—8th Feb. left Bombay for Singapore.

VICTOR, 18—Left Cowes Roads for the East Indies, 30th March arrived at Madeira, 3d April sailed.

WINCHESTER, 52—17th March at Bombay.

WOLF, 18—5th Feb. sailed from Algoa Bay for India.

ZEBRA, 16—12th March sailed for Trincomalee.

#### NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*, PRESIDENT, 52.

BELVIDERA, 42—May at St. Thomas; 17th May at Porto Rico; 1st June expected to go to Quebec; 16th June at Barbados.

CHAMPION, 18—11th June sailed for the West Indies.

COLUMBIA, St.V.—May at Barbados.

COMUS, 18—16th May arrived at Jamaica from St. Thomas.

CRUIZER, 18—7th May at Barbados.

DEE, St.V. 4—29th April at Jamaica.

DISPATCH, 18—7th May at Barbados.

DROMEDARY—Bermuda.

FLAMER, St.V.—Running with mails between Jamaica and Barbados.

FLY, 10—17th May at Port Royal; about to sail for Mexico and England.

FORTE, 44—29th April at Jamaica.

GANNET, 18—29th April at Port Royal.

LARNE, 18—16th May at St. Christopher's.

MAGNIFICENT, 4—Port Royal.

PICKLE, 5—24th Feb. arrived at Jamaica from Maracaybo.

PINCHER, 5—Tender to flag-ship, 14th Feb. at Port-au-Prince.

PIQUE, 36—Spithead. To sail on 21st

July with the Commissioners to Canada; The Rt. Hon. the Earl of Gosford, Sir G. Gipps, and Sir Charles Grey.

PRESIDENT, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 19th March at Bermuda.

RACEHORSE, 18—April sailed for Para; 7th May at Barbados.

RACER, 16—May at Barbados; 11th June left St. John's, Newfoundland, for Fortune Bay.

RAINBOW, 28—6th June arrived at Jamaica.

SAVAGE, 10—May at St. Thomas I.; 24th May arrived at Antigua.

SCYLLA, 18—2d June arrived at Barbados.

SERPENT, 16—29th April at Jamaica.

SKIPJACK, 5—30th Nov. Port Royal.

SPITFIRE, St.V.—carrying mails in the West Indies.

VESTAL, 26—28th April left Jamaica for Bermuda, with the crew of the Jackdaw, Lieut. Barnet.—Arrived at Bermuda on the 26th May, with the loss of her assistant-surgeon.

WASP, 18—28th April left Jamaica for Carthagena.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, SPARTIATE, 74.

ACTEON, 28—4th May at Rio Janeiro and sailed for River Plata.

BASILISK—4th May left Plymouth for South America.

BLONDE, 46—2d Feb. left Valparaiso

CHALLENGER, 28—25th March at Rio Janeiro. To return again shortly to the Pacific.



**COCKATRICE**, 6—Running between Rio Janeiro and Buenos Ayres.

**CONWAY**, 25—To leave the Pacific for Rio about July. 24th December at San Blas, Mexico.

**DUBLIN**, 50—Left Plymouth for Rio. To relieve the *Spartiate*; 17th April arrived at Madeira.

**HORNET**, 6—Running between Monte Video and Rio Janeiro.

**NORTH STAR**, 28—2d May at Pernambuco; to sail 4th for Bahia and Rio. **RAPID**, 10—16th Feb., left Rio for Falkland Island.

**ROVER**, 16—4th May at Rio Janeiro and sailed for Pernambuco.

**SATELLITE**, 18—Ordered home; 26th

October arrived at Callao from Valparaiso.

**SNAKE**, 16—10th May arrived at Spithead. Left Rio 25th March.

**SPARROWHAWK**, 18—Feb. and March at the Falkland Islands.

**SPARTIATE**, 76—25th March at Rio Janeiro.

**TALBOT**, 28—7th Jan. sailed from the Cape of Good Hope for India, having arrived same day from Rio. Arrived at Madras on the 12th March, but finding that Lord William Bentinck was about to embark for England in the *Curaçoa*, for which purpose she was sent to India, she was to return to her station at Rio Janeiro.

## TROOP SHIPS.

**ATHOL**, *Troop Ship*—Arrived at Plymouth 23d April from Jersey, and sailed on Wednesday for Cork, to embark troops for North America.

**BUFFALO**, *Store Ship*—Portsmouth, fitting. The *Buffalo* is to be prepared for conveyance of convicts to New South

Wales, afterwards she is to proceed to Trincomalee, and there to be appropriated for a hospital receiving ship.

**JUPITER**, *Troop Ship*—At Woolwich.

**ROMNEY**, *Troop Ship*—21st May spoken in lat. 46° N. long. 9° W.

## STEAM VESSELS.

**AFRICAN**—Channel Station.

**ALBAN**—See Mediterranean Station.

**BLAZER**—Running with mails between Malta and Alexandria.

**COLUMBIA**—See West Indies.

**CARRON**—Surveying.

**COMET**—Woolwich.

**CONFIANCE**, 2—Running with mails between Malta and Corfu.

**DEE**, 4—See North American Station.

**FIREBRAND**—Woolwich.

**FIREFLY**—See Packets.

**FLAMER**, 6—See West India Station.

**LIGHTNING**—Dublin.

**MEDEA**, 6—See Mediterranean Station.

**MESSINGER**, 1—Channel service.

**METEOR**—Woolwich, ordinary.

**PHENIX**—Woolwich. Ordinary.

**PLUTO**—Has been altered from a man-of-war to a yacht, by giving her commander, Lieut. Duffill, a new commission. This vessel will sail from Woolwich, the beginning of next week, with Mr. Ellis and suite, as yacht, and not as a man-of-war, in order to enable her to pass the Dardanelles.—H.T.

**RHADAMANTHUS**—Woolwich. Ordinary.

**SALAMANDER**—Woolwich. Ordinary.

**SPITFIRE**, 6—See West India Station.

**TARTARUS**—Lieut. James sailed from Woolwich 3d July, with the Hon. Henry Ellis, Ambassador to Persia, and suite on board, for Malta.

## SURVEYING VESSELS AT HOME AND ABROAD.

**ÆTNA**, 6—Canary Islands.

**BEACON**—Archipelago.

**BEAGLE**, 10—Cts. of Patagonia & Chili.

**CARRON**, St. V., Com. E. Belcher, surveying St. George's Channel.

**FAIRY**, 10—North Sea.

**GULNARE**, Hired Schooner—Gulf of St. Lawrence.

**INVESTIGATOR**, 16—Leith.

**MASTIFF**, 6—Archipelago.

**RAVEN**, Cutter.

**THUNDER**—3d March sailed for Honduras.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer—Coast of Ireland.

Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.

Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.

Lieutenant C. G. Robinson.—North Coast of Wales.



## PAID OFF.

**HARRIER, 18**—Commander Vassall, on the 15th July. This sloop was kept some days longer in commission than she would otherwise have been, in the expectation that a Court Martial would have been held on Commander Vassall, at his own request, to rebut certain charges or censures made by his late Commander-in-Chief, in a communication to the Governor-General of India, relative to Captain Vassall's conduct in the straits of Malacca; who, on one occasion, had found it necessary to punish some Malays in an Island in the straits, for having wantonly waylaid a boat's crew, and killed one of his seamen. Capt. Vassall had been especially ordered to look after these pirates, and the island in question was one pointed out in his instructions as one of their resorts. The Company's local authorities, at Penang, had expressed their approbation of this service, but the Vice-Admiral had thought it his duty

to look on the operation in a different light. The Admiralty, since the return of the *Melville*, very properly suggested that Capt. Vassall should forward a more detailed account of the transaction in question. Capt. Vassall, accordingly, transmitted the document required; upon which their Lordships have thought proper to return him a special letter, expressive of the approbation of the Board of Capt. Vassall's conduct on that occasion, and of his entire services in the Indian seas, as well as of the state and condition of his sloop, and officers and crew; and they further add in their communication, that the Vice-Admiral, late commanding in India, also concurs in their Lordships' encomiums, having seen reason, in Capt. Vassall's further explanation, to withdraw the unfavourable view he first entertained of the transaction.—*H.T.*

## COMMISSIONED.

**RUSSEL, 74**—13th July at Sheerness.

## APPOINTMENTS.

## PROMOTIONS.

**CAPTAINS**—J. Nias, C. H. Swinburne.  
**COMMANDERS**—T. Leigh, H. W. Crawford.

**LIEUTENANTS**—J. Robilliard, H. Loring, T. Renwick, F. H. Harper, G.E.W. Hamond.

**SURGEON**—J. M'Kittrick.

## APPOINTMENTS.

**ALBAN, St.V.**—*Lieut.* C. J. Hill.

**ALGERINE, 10**—*Lieut. Com.* W. S. Thomas; *Act. Mast.* Mills; *Assist. Surg.* Bankier; *Mate*, Tarleton; *Clerk*, Dutton.

**ASTREA**—J. Clavell, Superintendent of Foreign Packets.

**BARHAM, 50**—*Chaplain*, Rev. J. Jenkins; *Mids.* D. Lane, W. G. Grierson.

**BLONDE, 46**—*Lieut.* T. Anson.

**CALEDONIA, 120**—*Lieut.* J. S. Christian; *Assist. Surg.* J. Moody.

**CANOPUS, 84**—*Lieut.* E. Lake.

**CARRON, St. V.**—*Assist. Surg.* W. F. Carter.

**CHALLENGER, 28**—*Surg. Act.* J. A. Mould.

**CLIO, 10**—*Lieut.* F. Scott; *Mate*, W. H. Solly.

**COMET, St.V.**—*Clerk*, G. Hallet.

**COAST GUARD**—*Commanders*, J. Creagh, J. L. Wynne, W. Shallard, R. Deans, W. Smith (*b*), C. Basden. *Lieutenants*, P. P. Inskip, C. W. Ross, R. Taylor, W. Burt (*b*), E. G. Palmer, A. Parks, J. A. Simpkin, J. Bowie, W. H. Goslin, J. Bundock, R. Ralph, T. Stuart, J. Richards, W. Southey, H. Lewell.

**EXCELLENT, 76**—*Lieut.* J. H. Ward.  
**EDINBURGH, 74**—*Asst. Surg.* A. Kilroy.

**DUBLIN, 50**—*Lieut.* T. Chaloner.

**JASEUR, 10**—*Assist. Surg.* J. Park.

**MELVILLE, 74**—*Lieuts. Act.* G. Harrison, W. Need.

**MERMAID, Rev. Cut.**—*Lieut.* E. B. Nott.

**NAUTILUS, 10**—*Sec. Mast.* J. Chegwyn.

**OCEAN, 80**—*Chaplain*, Rev. E. Petman.

**ORDINARY**—*Sheerness, Lieut.* C. Hall.

**PANDORA, Packet**—*Assist. Surg.* A. Browning.

**PEARL, 20**—*Lieuts.* G. G. M'Donald, E. Williams; *Surgeon*, A. Gilchrist; *Assist. Surg.* L. D. Buchanan; *Purser*, J. Chimmio.

**PIKE, Schooner**—*Sec. Mast.* C. Gahan



- PELORUS, 10—*Lieut.* H. J. W. S. Galway.  
 PLUTO, St.V.—*Lieut. Com.* J. Duffill;  
*Assist. Surg.* J. Lancaster; *Sec. Master*,  
 W. Archer; *Mid.* H. R. Risk.  
 PORTLAND, 50—*Mate*, T. Denison.  
 PRESIDENT, 50—*Asst. Surg.* J. Shaw.  
 RALEIGH, 10—*Lieut.* R. C. Mitchell.  
 RINGDOVE, 10—*Lieut.* H. Mellicombe;  
*Mid.* D. Lane.  
 ROSE, 18—*Surg. Act.* J. Carmichael.  
 RACER, 16—*Master*, E. J. S. Cozens.  
 RACEHORSE, 18—*Purser*, J. C. Little.  
 RUSSELL, 74—*Capt.* C. W. Dillon;  
*Com.* A. Luckraft; *Lieut.* D. C. Cumby;  
*Master*, A. B. McLean; *Mid.* A. J.  
 Kynaston.  
 SAN JOSEF, 110—*Asst. Surgeons*, A. B.  
 Curnor, E. Grove.  
 SAPPHIRE, 28—*Mate*, J. H. Monro;  
*Master*, Colborne; *Schoolm.* J. P. O. Cole.  
 SERPENT, 6—*Com.* E. Nepean.  
 SPEEDY, *Cutter*—*Mate*, H. N. Mottley;  
*Mid.* T. Walker.  
 STAR, *Packet*—*Lieut. Com.* J. Binney;  
*Assist. Surg.* J. H. Nation; *Master*, P. C. D.  
 Bean.  
 TALAVERA, 74—*Mast.* J. C. Douglas.  
 THALIA, 46—*Lieut.* Murray (b).  
 THUNDERER, 84—*Assist. Surg.* W. T.  
 Rogers.  
 VICTORY, 104—*Chaplain*, Rev. C. B.  
 Rosenberg.  
 VERNON, 50—*Sec. Mast.* T. Little.  
 VESTAL, 26—*Act. Surg.* J. J. Lancaster.  
 WINCHESTER, 52—*Assist. Surgs.* J. G.  
 Ballantyne, J. C. Bowman, T. Cartoll;  
*Clerk*, T. Blewett.  
 WOLF, 18—*Mate*, H. T. Laye.

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DEATH OF LIEUT. JOHN GORE, AND LIEUT. J. L. FITZGERALD, AND EIGHT SEAMEN OF H.M.S. MELVILLE.—On the 30th April, being about 33 leagues to the eastward of Algoa Bay, the weather towards sunset confirmed the appearance which the day had exhibited, of an approaching storm, and rendered it necessary to reef the courses, and make the ship snug for the night. In performing this operation, a man named Phillips fell from the fore-yard overboard; Lieut. John Gore, who was then on the poop, immediately jumped into the larboard-quarter boat, and, observing the man could not swim, from thence into the water, in the hope and confidence that he should be the means of rescuing him before he could pass the ship. The quarter boats were lowered with all expedition; and the life-buoy let go.—Lieut. Fitzgerald took command of one boat, and Lieut. Hamond took command of the other. Before the boats were fairly in the water, Lieut. Gore was close to the ship, asking where the man was? He was told to strike out for the life-buoy, which was then a short distance astern; this he did, swimming very lightly and apparently with much vigour. The boats immediately pulled in the direction of the life-buoy, but, on reaching it, neither Lieutenant Gore nor the man was to be seen.—The boats rowed about for some time, the sea running very high, and the wind freshening; but met with no better success, and returned towards the ship. Lieut. Hamond and his crew reached her in safety. Not so with Lieut. Fitzgerald, whose boat when within hail of the ship to windward, was swamped by one of those hollow seas breaking directly into her, which are peculiar to this latitude. Their voices were heard calling to the ship, and the word "swam" or "swamping" was distinguished. By this time it was dark, the sea had risen to a fearful height, and the wind had increased. The quarter-boat was again lowered, (for she had been hoisted up directly Lieut. Hamond returned), in the hope that she might render some assistance, and guns were fired to let them know our position. The boat could not get to windward, and was obliged to return. We heard no more sound, save that of the hoarse wind moaning over our lost and lamented companions. Thus in a space of time less than an hour, were lost to their parents, their friends, and their country, two gallant promising young officers, and eight seamen; and, most appalling! an affectionate father was doomed to witness the loss of an only



and beloved son, in whom the fondest hopes were cherished, and for whose welfare in life many an anxious thought had been endured. Mysterious are the ways of God to man; and when astounding and awful visitations such as these are sent, submission and silence become his duty.—*Hants. Tel.*

### Births.

At Cromer, Norfolk, Mrs. M'Hardy, wife of Commander M'Hardy, R.N., of a son.

On Sunday, Mrs. S. Mottley, wife of Lieut. Mottley, of the Ordinary, at Portsmouth, of a son; being the tenth child.

At Bathford, Mrs. Carroll, wife of Capt. Carroll, C.B., R.N., of a daughter.

On the 7th inst., at Bingham Town, Gosport, the lady of Dr. Charles Inches, R.N., of a son.

On Tuesday the 14th inst., at Blackbrook Cottage, the lady of George Purvis, Esq., R.N., of a daughter.

At Falmouth, the lady of Lieutenant Forester, of H.M. brig Eclipse, of a son.

At Cadgwith, the lady of Lieutenant Brewer, R.N., of a son.

On June 23d, at Trazes-Terrace, Newcastle-upon-Tyne, the lady of Mr. Wm. Gowdy, Master R.N., of a son.

### Marriages.

At St. Thomas' Church, Winchester, Captain Wm. Keats, R.N., to Augusta-Maria, youngest daughter of Giles-King Lyford, Esq., of Winchester.

At St. Marylebone Church, G. Dobson, Esq., Commander R.N., to Eliza, daughter of Joseph Bonn, Esq., of Edward-street, Portman-square.

On Saturday, at All Souls' Church, Marylebone, the Rt. Hon. Lord George Paulet, Captain in the Royal Navy, third son of the Marquis of Winchester, to Georgina, daughter of Lady Wood and the late General Sir George Wood, K.C.B. of Ottershaw Park, in the county of Surrey.

At St. Andrew's Church, London, by the Rev. Thomas Shore, Sir George Young, Bart., R.N., of Formosa Place, in the county of Berks, to Susan, only surviving daughter of the late Mr. Sergeant Praed.

At Great Finborough, Vice-Admiral Sir W. Hotham, to Jane, widow of R.

Pettward, Esq., late of Great Finborough, Suffolk.

At Stoke Church, Lieut. Henry Johnston, R.N., to Miss Louisa-Drusilla-Sidney Cummings, of Stoke, youngest daughter of the late Mr. James Cummings, R.N.

At Camberwell, on the 4th inst., John Edmonston, Esq., Purser, R.N., to Elizabeth, eldest daughter of the late Mr. John Kirkwood, Veterinary Surgeon, Aberdeen.

At Chatham, Henry Tucker, R.N. Esq. to Miss Proctor, of Chatham.

### Deaths.

On the 30th June, Capt. Andrew King, C.B., Superintendent of the Packet Establishment at Falmouth, brother of Rear-Admiral Sir Edward King.

The 30th June, Matthew King, Esq., many years a Navy Agent, of Essex-st., Strand, of the firm of Barnett and King, and brother of the late Capt. Andrew King.

Suddenly, at Plymouth, whilst in his garden, on Saturday afternoon last, Com. Robert Andoe, R.N. (1821.)

At Saltash, aged 75, Edmund Nepean, Esq., a retired Commander of the Royal Navy.

Lieut. Cecil Tufton Phelp. R.N. second son of the late Colonel Phelp, of Coston, Leicestershire.

On the 31st January, at Callao, Lieut. W. Russell Drummond, of his Majesty's ship Satellite, in the 23d year of his age.

At Berkley, Leut. A. Robertson, R.N. (1812), aged 59.

At Brighton, Mr. J. J. Lanyon, R.N. (1793) aged 63.

At Brixham, on Saturday last, Retired Commander, Nathaniel Thomas France, aged 69.

In Ireland, W. Falls, Esq., Surgeon, R.N.

On the 1st May, at Jamaica, of fever, Mr. Dudley Smith Donville, Midshipman of his Majesty's ship Vestal, aged 20 years, son of Dr. Domville, of the Royal Hospital, Greenwich.



## FALMOUTH, 20TH JULY.

## LISBON—Sails every Tuesday.

Packet.	Commander.	Sailed.	Last Spoken.	Where.	Due.
PANTALON .....	Lt. Com. N. Cory .....	29 June	_____	_____	27 July.
NAUTILUS .....	Lt. Com. W. P. Crooke ..	3 July	_____	_____	31 July.
STAR .....	Lt. Com. J. Binney .....	12 July	_____	_____	9 Aug.
SCORPION .....	Lt. Com. N. Robilliard ..	17 July	_____	_____	14 Aug.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days; sails 1st of every Month.—Route—*Gibraltar, Malta, Greece, Corfu, Egypt, and India*, and thence returns in the same rotation.

AFRICAN, st. v. . .	Lt. Com. J. West. ....	3 June	_____	_____	26 July.
TARTARUS, st. v.	Lt. Com. R. B. James ..	5 July	_____	_____	27 Aug.

NORTH AMERICA—9 weeks: sails 1st Wednesday every Month.—Route—*To Halifax and back to Falmouth*.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

TRYIAN .....	Lt. Com. E. Jennings ..	6 June	_____	_____	8 Aug.
BRISIS .....	Lt. Com. J. Downey ....	4 July	_____	_____	5 Sept.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 1st of every Month.—Takes La Guayra Mail.

SHELDRAKE .....	Lt. Com. A. R. Passingham	3 June	_____	_____	26 Aug.
GOLDFINCH .....	Lt. Com. E. Collier .....	3 July	_____	_____	25 Sept.

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—*Crooked Island, Havana, Vera Cruz, Tampico, Vera Cruz, Havana, Falmouth*.

LYRA .....	Lt. Com. J. St. John ...	19 March	_____	_____	6 August.
FLOWER .....	Lt. Com. W. Downey ..	17 April	_____	_____	4 Septem.
PANDORA .....	Lt. Com. W. P. Croke ..	18 May	8 June	24°N.35°W	4 October.
REINDER .....	Lt. Com. H. P. Dicken ..	17 June	_____	_____	4 Nov.
PERON .....	Lt. Com. J. Binney ....	17 July	_____	_____	4 Dec.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 15th of every Month.—Takes Carthage Mail.

REWARD .....	Lt. Com. G. B. Dunsford	18 May	_____	_____	10 Aug.
SEAGULL .....	Lt. Com. R. Parsons ..	17 June	_____	_____	9 Sept.
STAMMER .....	Lt. Com. R. Sutton ....	17 July	_____	_____	9 October.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks: sails 1st Tuesday every Month.—Route—January to August inclusive; to *Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth*.—September to December inclusive: to *Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth*.

LAPWING .....	Lt. Com. G. B. Forester .	14 March	31 May	Madeira	2 August.
SKYLARK .....	Lt. Com. C. P. Ladd ....	11 April	19 April	Madeira	29 August.
MELVILLE .....	Lt. Com. C. Webbe ....	9 May	_____	_____	26 Sept.
OPOSSUM .....	Lt. Com. R. Peters .....	5 June	_____	_____	23 Oct.
SWALLOW .....	Lt. Com. S. Griffith ....	10 July	_____	_____	27 Nov.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

CAMDEN—Lieut. Com. J. Tilley, 17th July arrived from Halifax.	MUTINE—Lieut. Com. R. Pawle, 13th July arrived from Jamaica.
DUKE OF YORK—Lieut. Com. W. James, 8th May arrived from Halifax.	NETLEY—Lieut. Com. W. Wright, 3d July arrived from Lisbon.
FIREFLY, St. V.—Lt. Com. R. Baldock, 20th June arrived from Malta.	NIGHTINGALE—Lieut. Com. G. B. Fortescue, 25th June arrived from Jamaica.
ECLIPSE—Lt. Com. W. Forrester, 1st July arrived from Mexico.	PELHAM—Lieut. Com. W. Lealie, 9th April arrived from Mexico.
ESPOIR—Lt. Com. C. Riley, 15th July arrived from Lisbon.	SPY—Lt. Com. R. B. James, 2d July arrived from Jamaica.



**METEOROLOGICAL REGISTER, kept at Croom's Hall, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**JUNE, 1835.**

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FARRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	M.	29.93	29.95	54	56	44	58	S.W.	S.W.	1	2	Or (2)	O.
2	Tu.	30.05	30.02	58	65	44	66	S.E.	E.	2	3	O.	O.
3	W.	29.91	29.90	62	68	51	68	S.E.	S.	1	1	Or (1)	Bc.
4	Th.	30.03	30.03	60	63	50	64	N.E.	S.E.	3	2	Op (2)	Bcp (4)
5	F.	30.08	30.07	54	63	48	63	N.	N.	5	3	O.	O.
6	S.	30.06	30.08	64	74	52	75	N.E.	S.E.	1	3	B.	Bc.
7	Su.	30.16	30.14	66	76	55	77	N.E.	N.E.	2	3	B.	Bc.
8	M.	30.12	30.10	71	80	56	82	N.E.	S.	2	2	B.	Bc.
9	Tu.	30.22	30.20	73	82	56	82	S.E.	S.E.	3	2	B.	Bc.
10	W.	30.33	30.33	75	80	57	81	E.	E.	1	1	B.	B.
11	Th.	30.38	30.38	75	82	59	82	E.	E.	1	1	Bm.	B.
12	F.	30.41	30.37	74	82	56	83	N.E.	N.	2	3	Bm.	Bm.
13	S.	30.36	30.30	58	68	55	70	N.E.	N.E.	2	3	O.	Bc.
14	Su.	30.24	30.24	60	70	50	70	N.W.	N.W.	3	3	B.	B.
15	M.	30.25	30.23	69	75	54	76	N.	N.	3	3	O.	Bc.
16	Tu.	30.27	30.23	66	74	56	76	N.	N.	3	2	B.	Bc.
17	W.	30.14	30.12	69	73	61	75	W.	W.	3	3	Or 1)	Ttr (4)
18	Th.	30.11	30.11	62	66	54	67	N.W.	N.W.	4	5	O.	O.
19	F.	30.19	30.17	57	63	50	64	N.W.	N.W.	5	5	Bcm.	Bcm.
20	S.	30.01	29.98	63	67	56	70	W.	N.W.	3	4	Bcp 2)	Bc.
21	Su.	30.06	30.00	59	67	50	68	W.	W.	6	7	Bc.	Bc.
22	M.	29.83	29.78	62	72	55	72	S.W.	S.W.	7	7	Bc.	Bc.
23	Tu.	29.66	29.70	58	62	52	64	W.	W.	8	8	Bcr 1)	Bc.
24	W.	29.50	29.20	52	54	45	56	S.	S.	10	10	Qp (2)	Qor (3) (4)
25	Th.	29.44	29.56	51	50	44	52	W.	S.W.	8	9	Qor 2)	Qor (3)
26	F.	29.86	29.73	55	51	41	58	S.W.	S.E.	6	6	Qp (2)	Qgr 3) (4)
27	S.	30.00	30.10	51	54	44	56	N.W.	N.W.	6	6	Qp 2)	Qbc.
28	Su.	30.26	30.24	54	61	44	62	N.	N.	3	3	Bcm.	Bcm.
29	M.	30.22	30.20	58	63	43	64	E.	N.E.	2	2	Bcm.	Bcm.
30	Tu.	30.14	30.12	61	68	47	68	S.E.	S.E.	3	3	B.	B.

JUNE—Mean height of Barometer=30.063 inches; Mean Temperature=60.0 degrees;  
Depth of Rain fallen=2.23 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	p Passing temporary showers.
1 Light Air.	q Squally.
2 Light Breeze.	r Rain—continued rain.
3 Gentle Breeze.	s Snow.
4 Moderate Breeze.	t Thunder.
5 Fresh Breeze.	u Ugly threatening appearance.
6 Strong Breeze.	v Visible clear atmosphere.
7 Moderate Gale.	w Wet Dew.
8 Fresh Gale.	.
9 Strong Gale.	.
10 Whole Gale.	.
11 Storm.	.
12 Hurricane.	.
b Blue Sky—whether clear or hazy atmosphere.	.
c Clouds—detached passing clds.	.
d Drizzling Rain.	.
f Foggy—f Thick fog.	.
g Gloomy dark weather.	.
h Hall.	.
l Lightning.	.
m Misty hazy atmosphere.	.
o Overcast—or the whole sky covered with thick clouds.	.

The Figures in the Weather Column.—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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CAPE HORN. KAUHAUVELT ISLANDS.  
*Engr. for the Proprietors of the Nautical Magazine by Simpson & Marshall 1836*



## ORIGINAL PAPERS.

SEPTEMBER, 1835.

SOUTH AMERICAN NAVIGATION, *Atlantic*.

## Compass Bearings.

THE following extracts from a MS of Mr. John Goodlet, master of the brig *Gratitude* in 1824, 1825, and 1826, on the navigation of the coast of Patagonia, the bay of St. Francis, in Hermite Island, and various other South American ports, will be of service to navigators :—

After leaving the river Plate, keep as near the coast as possible, say in from sixty to seventy fathoms of water, where you will in general have less sea, and more favourable winds, than you might expect if steering a direct course for the Strait of Le Maire. If you wish to secure a speedy passage, keep inside of Staten Island.

If the tide should be against you when coming to the entrance of the strait, it will be advisable to keep to the westward of Cape Diego, until you have it in your favour.

It is likewise to be remarked in general, when you arrive at the latitude of  $39^{\circ}$  to  $40^{\circ}$  S. that near the shore you have nothing to fear from variable winds, as they are neither strong nor constant ; the coast is likewise pretty clear of unseen dangers. You may therefore run along the coast with safety.

If you should not make the land before you pass the entrance of Magellan Strait, it will be advisable to make Cape St. James.

As you enter the Strait of Le Maire, and wishing to anchor in Good-Success Bay, do not mistake it after you pass Cape San Diego. In entering the strait, there is a very deep bay, formed by Cape San Diego and Cape North, which might be mistaken for the bay of Good-Success.

From Cape San Diego to Cape North is fourteen miles, and after you pass this you instantly open the Bay of Good-Success. When open, you may then steer in, and anchor in any part of the bay you think proper, in any depth of water you choose, from three to forty, and from ten to twelve or eighteen fathoms. On entering you will come from thirty to twenty fathoms in one coast, as soon as you enter in between the two points.

If the wind should fail when you are in the Strait of Le Maire, prefer anchoring in the bay of Good-Success, to going to sea with a foul wind, as you might there supply yourself with any useful thing that you may stand in need of. There is excellent wood there, fit for making spars of any description, or it may be applied to any other use that may be required, as it is of excellent quality, something resembling our ash, hickory, beech, &c.

As you leave this bay, and proceed to the southward, the land



will be found very high, especially when you come to Cape Good-Success, which forms the south entrance of the straits, and is easily known by the land running away more to the westward.

Round Cape Good-Success is Valentine Bay, which runs away in N.W. from Cape Good-Success, and is formed to the west by Canoa Point. The land at both the east and west sides of the bay is very mountainous, but in the bottom of the bay it is rather lower, nearly forming the appearance of a saddle. In the bay there is sufficient water for any vessel; but it is a bad bay to lie in, as there is in general a very heavy swell setting in from the southward.

On leaving the straits, and bound to the westward, the course from Cape Good-Success to Barneveltdt Islands is S.S.W.  $\frac{1}{4}$  W., distance sixty-six miles, and from thence to Cape Horn S.S.W., distance twenty-six miles.

On leaving the straits, the first land you see to the westward is the Isla de Nuevas, (News Island,) and then the islands of Barneveltdt, which are twenty-seven miles to the south of Nuevas Island.

In running from Barneveltdts to Cape Horn, do not mistake it, as before you come to it is Cape Deceit, which has nearly the same appearance, but close by it are a number of small islands and rocks, which will enable you to distinguish it from Cape Horn.

All along this coast the water is very deep, and very few unseen dangers exist, and by keeping at the distance of three or four miles from the shore, or, in passing any of the islands, by keeping about half-a-mile from them, you will have nothing to fear.

If the wind should come to the westward off Cape Horn, so that you cannot lie your course, you may, if you think proper, go into the Bay of San Francis, where you may lie at anchor with perfect safety in any place on the west side of the bay.

There are numbers of small bays, where vessels may lie quite land-locked, and sheltered from any wind that may blow.

All over this bay, in any of the creeks, you will find plenty of vegetables, fowls, and fish, also plenty of good water.

In the beginning of 1823, Mr. Hunter, of the brig Orion, was taken with the wind from the westward, before coming to Cape Horn. He tells me he run to the northward, along the east side of the island of Hermite, about five or six leagues, and found a very fine passage into the Bay of St. Francis, by which he entered, and found in it from eight to twelve fathoms of water all the way through to the bay, where he anchored, and supplied himself with all he stood in need of, such as water, wood, fish, fowls, and vegetables, of almost every description, of an excellent quality.

*Directions for entering the Bay of St. Francis, or San Francisco.*

From Cape Horn to San Joachin Cove is N.W.  $\frac{1}{4}$  W. distant sixteen miles. There you may anchor in safety, in from ten to



twenty fathoms. About seven miles and a half N.W. by N.  $\frac{1}{4}$  N. from this is San Martin Cove, where you may anchor in great safety in from six to twenty fathoms, and quite sheltered from all winds. San Bernardo Cove is from this N.W. by N. ten miles; but, in running for this cove, do not mistake it for Foul-Ground Cove, the bottom of which is very uneven and rocky. By running from San Martin Cove ten miles N.W. by N. you will open the bay or cove, and you may then steer right in, and anchor in any part you may consider most advantageous for landing, and for the safety of your vessel. In the bottom of the bay are the islands of San Bernardo, and between them and the shore is from ten to twelve fathoms. You may therefore anchor where you think proper.

On leaving Cape Horn, and bound to the westward, you may steer W.S.W. until you see the islands or rocks of San Ildefonso, which lie sixty-two miles from Cape Horn: there is deep water all along, and from fifty to sixty fathoms when you are close to the rocks; there is also plenty of fine fish. From thence to the island of La Tour is W.  $\frac{1}{4}$  N. distance 154 miles, and from La Tour to Cape Noir N.W. by N. distance ten miles; and from La Tour to Cape Pillar, at the S.W. entrance of the Straits of Magellan, is N.W.  $\frac{1}{4}$  N. distance 128 miles. In coming in with this cape, beware of the Twelve Apostles, and the Judges, as they are very dangerous, and lie about three to four miles off the shore. In passing the cape, it will be advisable to give it a berth of about six or eight miles. About N.W.  $\frac{1}{4}$  W. are the islands of Direction, or the Four Evangelists, in the entrance of the Straits of Magellan; but from these islands you have nothing to fear, as the water is quite deep close to them.

When bound to the coast of Chili or Peru, it is advisable to steer away direct to the westward from Cape Horn, until you are in about  $80^{\circ}$  west longitude from Greenwich, and then steer as directly for your place of destination as the wind will allow of.

December 8, 1825.—Strong gales, attended with very heavy squalls of wind and snow. At 3 A.M. the vessel was close to Cape Horn. At 6 A.M. entered the bay of St. Francis, which is a large and spacious bay, and affords an excellent shelter for shipping in heavy gales of wind. This is a very commodious bay, having many small bays and creeks on every side of it, sufficient to shelter the largest vessels from every wind that blows.

About ten in the morning, the wind abating, and becoming more favourable for gaining the Bay of Good-Success, I bore away for that; as wood is very scarce here, and we being in need of that necessary article, as well as water, I preferred going to the Bay of Good-Success, to get our supply there.

All this island, or islands, is to appearance full of creeks, bays, and harbours, which appeared to me to afford very excellent shelter



for shipping in bad weather. All the land here facing the southward has a very rugged appearance, and nothing to be seen but barren rocks, with the exception of a few valleys, where there are some rivulets of excellent water; and when on shore, you will find plenty of excellent grass, and even some very large and beautiful spots of ground fit to produce any sort of grain or vegetables that might be sown or planted in it.

At noon, the islands of Barneveltdt bearing N. distant about one mile and a half. These islands in many places have plenty of fine verdure on them, especially on the northern side, and some very fine-looking spots of ground. Round these islands are many small rocks, but in my opinion they are not dangerous; as I could see no breakers or sunken rocks, I would have had no hesitation in approaching any of the creeks that boats might have landed in with safety.

Gales of wind close inshore are neither so strong nor lasting as they are found to be when you keep well to the southward, and clear of the shore.

All along this coast are plenty of bays, rivers, and creeks, which might be of great service to shipping were they well surveyed.

December 9.—Winds very strong and variable from the S.W. with a heavy sea from the same quarter. About 10 A.M. anchored in the Bay of Good-Success, for the purpose of procuring wood and water, of which necessary articles there is plenty, and of easy access; and also vegetables of almost every description. Red currants are found here in great abundance, and many other very excellent fruits, all growing spontaneously.

This bay has no unseen dangers in it; you may therefore anchor in any part of it you please, and in any depth of water from twenty to four fathoms. The ground is fine and clean, mud and sand, and excellent holding-ground.

The natives were quite naked, excepting a skin over the shoulders, and came down armed with bows and arrows, (the latter in quivers containing one hundred arrows each, also lances about twelve feet long,) and tried to steal the iron hoops off the casks, and succeeded in stealing a bucket. Goodlet's men were obliged to take to their boat, and, going on board the *Gratitude*, armed themselves, and returned on shore, when a couple of muskets, loaded with slugs, being fired at the natives, they fled, and he saw no more of them.

Mr. Goodlet says—One thing I thought very remarkable was, that all of them (i.e. the natives) had a large foot and a small one. The small foot I think is occasioned by tying a piece of hide round the middle of the foot very tight, and they appear to wear it constantly. The left foot is the small one.

These Indians appear to me to be a set of poor wandering creatures. In this part there was no appearance of hut or house, nor any thing more than subterraneous caves to shelter them from the



inclemency of the weather. (He had previously mentioned having visited a cave, or rather den, in which some of them were living.)

The land all about this bay is very beautiful, and the soil apparently very rich, and fit to produce any thing that might be sown or planted in it.

The valleys are large and beautiful, and well supplied with water; also plenty of excellent grass, that took me up to the middle (Mr. Goodlet is about five feet six inches high) in walking through it. In these valleys there is plenty of all sorts of vegetables; currants, figs, and greens, of different descriptions, in great abundance. The celery here exceeds any in fineness that I ever saw, it is of so excellent a quality.

There is also excellent and large wood, of different qualities, which is fit for any purpose, and would make excellent wood for ship-building, as it is in general very hard, and of a fine grain, resembling that of ash, and some of it again of a reddish colour, similar to mahogany, and some hard enough to make instruments for working or cutting down wood of almost any ordinary quality.

There are also four rivulets of excellent water, and one of them navigable for boats a long way up, having about four or five feet at low-water, after you are over the bar that lies across its entrance and dries at low-water. It is high-water about three o'clock, and rises about twelve feet.

In the bay you do not feel the current, as it is hardly perceptible, and the vessel always rides with the wind. There is in general a swell that sets into the bay, but noways dangerous; nor is it difficult to land in any part of it.

On the 13th, got under way, the wind at the same time blowing very strong from W.N.W. As soon as we got out of the bay into the Strait of Le Maire, the sea that was caused by the current and wind was tremendous, and knocked the vessel about as if she had been on a sand-bank, and the current having such an effect on her that it was next to impossible to steer her, although blowing half a gale, and under double-reefed topsails. This tremendous sea continued all the flood-tide, but at high-water it became quite smooth.

[We have annexed to Mr. Goodlet's remarks an original view of Cape Horn, from the valuable collection of Captain Fitz Roy, surveying that coast in H.M.S. Beagle, proposing in an early number to lay before our readers some further remarks on making the passage both ways round this promontory. In the mean time we may observe, that Mr. Goodlet's recommendation of keeping the land aboard, when going round the Cape into the Pacific, appears to agree with the experience of most navigators of that part of the world. ED.]

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## 518 IMPROVEMENTS IN THE LIGHTS, BUOYS, ETC. AT LIVERPOOL.

### IMPROVEMENTS IN THE LIGHTS, BUOYS, &C. AT THE ENTRANCE OF THE PORT OF LIVERPOOL.\*

Compass Bearings.

*Dock Office, Liverpool, June 30th, 1835.*

*The Trustees of the Liverpool Docks and Harbour* hereby give notice, that, in accordance with the recent survey of Capt. Denham, R. N. the following improvements in lighting, beaconing, and buoying, of the approaches to the port, will be in operation on and after the night of the first of August next, viz.

**Point Lynus Light.**—This light, hitherto so situated as to preclude seeing it seaward, and merely shown by a single reflector upon the long-shore aspects, will be advanced to the pitch of the point, and exhibited from a castellated building (with white basement) recently erected thereon, with a powerful steady light, of the natural colour, produced by 13 argand lamps and reflectors, ranging over 211 degrees of the northern and south-eastern horizon, at an elevation of 128 feet above half-tide level, rendering it visible, in clear weather 6 to 7 leagues from a ship's deck; or within 1 league of taking up the N.W. light ship of Liverpool. This light is so masked for local inshore effect, as to obscure itself when brought eastward of S.E.  $\frac{1}{4}$  E. which clears the *Middle House*  $\frac{1}{4}$  of a mile, or northward of N. by W.  $\frac{1}{4}$  W. which clears the *Dallas Rocks*  $\frac{1}{4}$  of a mile, and indicating when you ought to tack out of *Red Wharf Bay*.

*The Formby Floating Light* will, on and after the same night, show its natural colour with increased power, in lieu of the red light hitherto exhibited.

*The Rock Lighthouse* will exhibit a black ball above its balcony, whilst 12 feet water remains in the "Rock Gut" by day; and a steady light (from a lower chamber in the western aspect) will indicate the same by night.

*A Floating Beacon* will be moored in the place of the present fairway buoy, at the new channel entrance; presenting a black conical figure, bearing this inscription: "To New Channel E.  $\frac{1}{4}$  S." and surmounted by a large black ball, elevated 23 feet, with a self-acting Bell.

**New Channel Land Mark.**—In order to render the line of leading objects into the New Channel more available in hazy weather, or accidental absence of the light-vessel; a dark bulky frame-work has been erected on the high-water shore of Formby, in line of the light-vessel and light-house.

**Hoylake Lighthouses.**—These buildings, in order to distinguish them more effectually from the neighbouring houses, will henceforth be painted white.

\* From a pressure of other matter, we were unable to find room for this in our last.



**Dove Beacons.**—Two beacons will appear on Dove Point instead of one, affording a leading mark when brought in line upon the bearing of S. by E. for passing between the Dove Spit and East Hoyle, in reference to the eastern entrance of Hoylake.

**The buoys** will henceforth be distinguished by the initial of the channel or bank they respectively occupy, i. e. F. *Formby*, C. *Crosby*, N. *New Channel*, HF. *Half-tide Swatchway*, H. *Horse Channel*, HE. *Helbre Swatch*, R. *Rock Channel*, L. *Lake* (Hoylake) B. *Beggar's Patch*, K. *Knowl* (Newcome.) They will likewise be numbered in rotation. No. 1 always denoting the outer, or seaward buoy of the channel its letter indicates; and the turning point, or elbow, of each channel will be distinguished by a perch buoy; bearing in mind that red buoys lie on the starboard hand, and black upon the larboard, when running in.

**Additional Buoys.**—Eighteen additional buoys will be laid down by the above date (making 56 in all) and thus disposed. *One* (red) and *one* (black) on each side of the New Channel, between the present buoys. *One* (red) on the eastern edge of Jordan Bank, between the present buoys. *One* (black) on edge of Formby Bank, next northward of Crosby buoy. *Two* (black) on the Low-water edge of Bootle sands. *One* (red) on edge of Rip-raps. *One* (red) on edge of Mockbeggar Wharf, between the Dove Spit of West Wharf Buoys. *One* (black and white) on west end of Beggars Patch. *Two* (red) on east edge of East Hoyle Bank, within the present buoys. *Two* (red and white) on the west side of Helbre Swatch. *Two* (black) on east side of ditto. *One* (white with black stripe) showing the fairway of Half-tide Swatchway, 1 mile westward of Formby fairway buoy. *One* (red) on the end of Hoyle, in Hoylake, abreast of the church. And a black (Nun) buoy, (marked K. 1.) upon that part of a shoal now called *Newcome Knowl*, which has lately grown up so as to have but 14 feet water upon it at low-water springs. This buoy bears from the N.W. light-ship E.  $\frac{1}{4}$  S.  $2\frac{1}{2}$  miles; and from the New Channel floating beacon S.S.W.  $\frac{1}{4}$  W. 2 miles.

The whole of the foregoing will be clearly shown and explained in the forthcoming completed edition of Capt. Denham's Survey, of which the dock trustees published an extract chart last year, under sanction of the Right Hon. the Lords Commissioners of the Admiralty.

By order of the Liverpool Dock Committee,

H. M. DENHAM,

Marine Surveyor to the Dock Trustees.

**N.B.**—The navigation of the port will be further assisted by an arrangement which will enable the light-vessels to act as telegraphs, whereby ships' numbers or casualties will be more readily transferred to the town.



**IMPROVEMENT OF LIGHTS ON THE COAST OF DENMARK.**

The following notice has been received from the Danish Government.

"The royal general custom-house and chamber of commerce has communicated to this custom-house that the lights at Nakkehoved, Gjedswoed, Fakkebeirg, and at the Scaw, have been changed from coal-fire lights to fixed lamp-lights.

"The said college has further stated that, no change having taken place in the buildings of the light-houses, the distance, at which the lights are discernible, is not increased although the additional clearness and improvements in the lights will render them more powerful and perceptible to the eye of the observer."

*Hydrographic Office, Admiralty, 20th August, 1835.*

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**CURRENTS OF THE OCEAN. By Mr. W. Walker, Master, R.N.**

WHENEVER we apply the principles of natural philosophy in the investigation of causes now in operation, whether upon the earth's surface, in its atmosphere, or in the waters of the ocean, we find proofs of infinite goodness, intelligence, and design. The winds are wafted from one locality to another; they fan the surface of the globe, sometimes giving out moisture, and at other times absorbing aqueous vapours, thereby maintaining our atmosphere in a state fit to support animal and vegetable life: but if the aerial currents be a necessary part of the constitution of our planet, oceanic currents are equally important in the economy of nature; they, too, depend on principles capable of explanation. The waters of the ocean are never still; their surface is ruffled by the wind, or raised into waves, which, by their undulations, disturb the hydrostatic pressure at the bottom, and thereby produce a motion among the aqueous particles favourable for submarine vegetation and piscatory life. So elastic is water, and so mobile are the waves of the ocean, that these undulations pass from one continent to another, and travel on for hundreds of miles after the forces that produced them have ceased.

The waters of the sea being continually raised into the atmosphere by the agency of heat, they form clouds, which are condensed into showers, to fertilize and fructify the earth, the waste water being returned to the ocean. The tides are another source of motion to the waters of the sea: tidal undulations penetrate into rivers, they search our gulfs, bays, and creeks, and are continually changing the level at the surface, and consequent pressure at the bottom: but it is principally to the great oceanic streams that we wish to draw the reader's attention. Unlike the tides, these immense



masses of water are put in motion from other causes than solar and lunar attraction; they are in constant circulation on the surface of the globe; they traverse regions of very different temperatures, giving out or taking up heat, and thereby softening the severity of polar cold, and tempering the heats of tropical regions.

Mountain ridges condense vapours floating in their atmosphere, and give birth to rivers; the heated land invites the sea breeze, and the configurations of the coasts of continents and islands determine in some measure the direction of oceanic currents, thereby preserving a *circulation* in the liquid portion of our planet, which, in the lapse of many years, may undergo slight changes, in consequence of the transporting power of running water, which brings about geological changes in the bed of the sea, or on the coasts of our present continents. A brief summary from a paper written on this subject in 1831 may amuse those who have not turned their attention to the theory of currents, and may excite a spirit of inquiry in those whose occupation is on the deep.

Currents, properly so called, are those streams of water that result from other causes than solar and lunar attraction. Tidal currents change their direction every six hours, whereas oceanic currents are either of a casual, periodical, or permanent nature. In a moderate breeze of wind the *atmosphere* moves along the surface of the sea at the rate of fifteen or twenty miles an hour. Now, we know by experiment that the weight or pressure of the atmosphere over a single superficial foot of water is about 2000 lbs. need we then wonder at currents being produced by wind? The pressure of the atmosphere, and its friction when moving along the surface of the sea, communicate a part of its motion to the water in the ocean, which flows on in the direction of the wind; and this we call a lee current. The late Mr. Smeaton observed, that in a canal four miles long, a moderate breeze along its surface raised the water four inches above the ordinary level at the lee end, and depressed it four inches at the weather end, thereby producing a difference of eight inches in the vertical height, between the surfaces at the lee and weather ends of the canal. Let us now consider what would take place in the canal under these conditions. In the first place, the force of the wind would produce a lee current along the surface, and heap up the fluid to leeward above the ordinary level. Now, this accumulation would destroy the equilibrium of hydrostatic pressure at the bottom, where the elementary particles of the fluid would escape in the direction of least resistance, namely, along the bottom of the canal, towards its weather end, where the water was lowest, and consequently where the pressure at the bottom would be least. The pressure of a fluid at any given depth is equal in *every direction*, and proportional to the height of its column. Now, presuming the water's surface at the leeward end



of the canal to be eight inches higher than at the weather end, and admitting the mean depth of the canal to be six feet, and its bottom to be an horizontal plane, the depth of the water at the lee-side would be seventy-six inches, and at the weather end only sixty-eight inches, and, since the hydrostatic pressure at the bottom is proportional to the vertical height of the column of water, the pressure at the bottom of the lee side would be about one-ninth greater than at the weather side; consequently the accumulated water would return along the bottom, thereby forming a counter or under current, running in an opposite direction to that on the surface. In this way the waters in ponds and lakes are agitated, and made to circulate by the action of the wind, thereby preventing a total stagnation in the fluid, from which might arise noxious vapours, pestilence, and death.

At sea a change of wind is generally accompanied by a change in the direction of the current, and in some parts of the world these changes are very extraordinary. The long island of Negroponto lies parallel to, and very near the coast of Greece. At the town of Egripos (the ancient Chalcis) the channel between the island and the continent is only forty yards wide: here they are joined by a bridge of four or five arches, through which the current is continually changing its direction, and sometimes running at the rate of five or six miles an hour. It is even asserted that the current has been known to run at the rate of eight miles, with a fall under the bridge of one foot and a half. These extraordinary currents were a source of wonder to the ancients, and Aristotle laboured hard to find out their cause; they are now easily accounted for. A change of wind in the Gulf of Volo, or Ægean Sea, produces a change in their relative levels, and the water flows through the arches of the bridge at Egripos to restore the equilibrium; a southerly wind producing a current to the northward, and a northerly wind being accompanied by the prevailing southerly current.

When the winds and waves are driven into gulfs and bays, there is a surface current running towards the shore, which soon carries ships towards the beach; but seamen are aware that in such localities an under current may be expected, called the "Undertow," which sets to windward, and is sometimes strong enough to counteract the force of the wind and waves together. I have seen an English frigate within half a mile of the shore, in the bay of Naples, riding in a southerly gale with topmasts struck, and a high sea running, which made a clean breach over the mole at Naples; and yet the ship was frequently broadside to the wind, so strong was the undertow from the shore! The experienced seaman in such cases will endeavour to take advantage of these returning currents, and thereby lessen the dangers of a lee shore.

Currents are produced by fluctuations in atmospheric pressure.



In inland seas having communications with the ocean, like the Baltic, Mediterranean, Red Sea, or Persian Gulf, a rise or fall of the mercury in the barometer will be accompanied by currents in the straits leading from the ocean. When the mercury stands above its mean height, the surface of the sea is *below* its medium level, and when the barometer is very low, the surface of the sea is found to be very high. These fluctuations in the height of the water amount to two feet in the harbour of Valetta, at Malta; and throughout the Mediterranean a fall of the water's surface indicates fine weather, and is in fact a barometer to the mariner and fisherman. Now, currents arise from these fluctuations in the pressure of the atmosphere, which are only transfers of pressure from one locality to another. Suppose that a fall of the barometer = 1 inch of mercury takes place over the Red Sea, and parts adjacent, the weight of the atmosphere over the Indian Ocean remaining the same as before, it is very evident that its surface will have to sustain a pressure greater than that over a given portion of the Red Sea by an inch of mercury, or thirteen inches and a half of water. Now, this superior pressure upon the surface of the Indian Ocean would cause the current to run into the Red Sea, through the Straits of Babelmandel, until the equilibrium was restored. All large pieces of water that communicate with the ocean by narrow channels will consequently have currents running through them, and the surface will be raised or depressed by fluctuations in the pressure of the atmosphere.

Currents are also occasioned by differences in the specific gravities of neighbouring or contiguous masses of water; and here there will always be a surface current of the lighter fluid, and an under current of the denser medium running in an opposite direction at the bottom. These currents are very numerous, and in many parts of the world of a permanent nature. The Dardanelles, Straits of Gibraltar, and entrance to the Baltic, are well-known instances.

It is not our intention here to attempt to enumerate all the currents of the ocean; the limits of a periodical would not admit of such an undertaking, neither would the leisure hours, nor even our inclinations, admit of such a gigantic task; our aim is only to point out some of the causes that produce currents, and to shew that these causes and their consequences form a necessary part of an harmonious system.

There is a constant current running out of the Black Sea, through the channel of the Dardanelles, and into the Mediterranean. Now, the Black Sea receives more water by rain falling on its surface, and rivers running into it, than is carried off by evaporation; the quantity of fresh water received being greater than that carried off by exhalation, the superfluous water is carried off by the current already mentioned. The specific gravity of the water in the Black



Sea is 1014, and that of the Mediterranean 1030. How then does it happen that the Black Sea is not altogether fresh? The reply is, that an under current of the densest fluid sets in from the Mediterranean, which, by mixing with the fresh-water discharged from the Danube, Dnieper, Don, &c., gives to the Black Sea that slight degree of saltness it is found to maintain. If two fluids of unequal densities be put into a bent tube, they would, by the laws of hydrostatics, stand at heights inversely proportional to their densities: thus, one inch of mercury will balance a vertical column of water =  $13\frac{1}{2}$  inches, and a column of the waters of the Mediterranean equal to 1014 would balance a column of the waters from the Black Sea equal to 1030. Now, in the case of contiguous masses of water of unequal densities, the lighter fluid is continually descending an inclined plane, and the more dense fluid is, by hydrostatic pressure, urged on in the direction of least resistance, namely, under the fresh-water. These under currents of sea-water throw up bars of sand and gravel at the entrance of fresh-water rivers.

The Baltic Sea receives more fresh-water than is evaporated from its surface, the excess being discharged by a current of two or three miles an hour at Elsinore. Yet the Baltic is not altogether fresh; it is even a little saltier than the Black Sea; its specific gravity is 1015, and this saltness is kept up by under currents from the German Ocean. We read in the Philosophical Transactions of the Royal Society, that, about the year 1684, some persons wishing to try the strength of the current at Elsinore, went with their pinnace into the middle of the stream, and were carried violently by the surface current; that, soon after, they sank a basket with cannon-balls to a certain depth, which gave a check to the boat's motion, and, sinking it still farther, the boat was ultimately carried to windward, and *against the surface current*. The basket having been lowered to near the bottom, got into the under current running into the Baltic, and met with greater resistance at the bottom than the boat met with at the surface.

The extraordinary current which is continually running from the Atlantic into the Mediterranean, through the Straits of Gibraltar, is altogether of an opposite character to those we have described, although resulting from similar causes; for, although the waters of the Atlantic Ocean be of the usual density of sea-water, being 1028, yet the waters of the Mediterranean are more salt. The quantity of water raised from the surface of the Mediterranean by evaporation exceeds that received by rain and rivers. Here we have a clear sky, and winds which convey the moisture raised from the sea, to cool the African and Asiatic wastes. To prove that in this climate the evaporation from the surface of water exceeds the quantity of rain falling on a given surface, we have only to remember that the lake Asphaltites maintains its level, and that conse-



quently the evaporation from its surface is equal to all the rain that falls in it, *plus* the waters discharged by the river Jordan! Another example might be given of the Caspian Sea, which receives all the waters from the mighty Volga, without its general level being raised.

The specific gravity of the waters of the Mediterranean at its surface is 1030, and, according to Captain Smyth, water taken up from a depth of 670 fathoms east of Gibraltar, was of greater density, and was found to contain four times the usual quantity of saline matter. The cause of a current running into the Mediterranean is the difference in the specific gravities of the Atlantic and Mediterranean. The depth between Ceuta and Europa point is equal to 4200 feet. Now, a column of water of the specific gravity of 1030 and 4200 feet in height, would balance another column of the specific gravity of  $1028 = 4208\frac{1}{2}$  feet in height. So that if a barrier could be placed across the Straits of Gibraltar, and reaching from the surface *to near the bottom*, it would be found that the waters of the Atlantic would stand at least eight feet higher than the level of the Mediterranean, to preserve the equilibrium between their respective pressures; but, as no such barrier exists, the waters of the Atlantic continue to flow down an inclined plane into the Mediterranean, and, exerting a pressure on the surface of a denser fluid, the highly-saturated fluid escapes in an under current into the Atlantic. In the year 1712, Monsieur De L'Aigle, commanding the *Phœnix* of Marseilles, gave chase near Ceuta to a Dutch ship bound for Holland, and, coming up with her in the middle of the strait, gave her a broadside, and she sank. All the crew were saved by Monsieur De L'Aigle; and, a few days after, the sunken ship, with her cargo of brandy and oil, arose on the shore near Tangier, four leagues to the westward of where she sank, and directly against the set of the current. In order to shew experimentally, that when two fluids of unequal densities have a communication with each other, a current and counter-current would take place, I procured two glass tubes of three feet in length; they were placed in a vertical position, closed at bottom, and communicating with each other by means of a small tube of glass of one-tenth of an inch in diameter. In one tube I put oil, in the other salt-water: the fluids stood at heights inversely proportional to their densities; the surface of the oil being higher than that of the saturated water in the contiguous tube. A communication having been made between the surfaces by means of a syphon, the oil flowed to a lower level upon the water. This destroyed the equilibrium that had previously existed at the bottom, and a current began to flow in an opposite direction to that at the surface; and this continued till the surface of the water in each tube stood at the same height; and an equal height of oil on both surfaces, that is to say, an equal column of water occupied the lower part



of each tube, and an equal column of oil above the water. Of course all motion ceased.

We see, then, that the surface of the Mediterranean sea is lower than the surface of the Atlantic or Black Sea. Our proofs are, the superior density of the waters of the Mediterranean, and surface currents running down inclined planes from the ocean and Black Sea into the Mediterranean, the basin of which is very deep compared to other inland seas. Soundings have been obtained at 7200 feet, without any appearance of saline deposits; indeed saline deposits can never take place in waters communicating with the ocean, because the under current will always preserve a certain ratio in the specific gravities of adjacent seas, and equally prevent the Baltic from becoming altogether fresh-water, or the Mediterranean a deposit for salt or brine. The Dead Sea has acquired an extraordinary degree of saltness for natural water, but as its saltness increases, the evaporation from its surface diminishes, steam being more easily raised from fresh-water than from brine; so that, should the Jordan continue to supply the same quantity of fresh-water, there is good grounds for believing that the specific gravity of the water of the Dead Sea will not be increased.

Between the tropics, and within the limits of the trade-winds, in the Pacific, Atlantic, and Indian oceans, the great *equatorial currents* are found to prevail. The perpetual easterly wind impels a vast volume of water to the westward, which, meeting with deflections from the coast on which it impinges, the stream is turned into the extra-tropical seas. Certain meteorological changes take place in consequence of these oceanic currents, which otherwise would not be found in similar latitudes. In the Pacific ocean, between the tropics, and from America to New Guinea, the current sets constantly to the westward; ships bound from America to India or China are set many degrees in advance of their reckoning. This great stream passes through among the numerous islands, and into the Indian Ocean; proceeding westward, and urged on by the easterly wind, it meets with Madagascar, and the coast of Africa, where it is pent up, and can only escape in a south-westerly direction round the Cape of Good Hope. As we proceed southward towards Cape Lagullus, the velocity of this current increases from 50 to even 120 miles per day; its strength being greatest after a succession of westerly gales. The stream is about 120 miles in breadth, and the water is of a high temperature and great density. Icebergs are sometimes met with near the southern limit of the Lagullus current; and these masses of floating ice chill the air and cool the sea in their vicinity. Dreadful storms of wind, rain, thunder, and lightning, prevail in the neighbourhood of the Cape of Good Hope, and, no doubt, result from copious evaporations from the heated stream; sudden condensations and electrical phenomena resulting from the admixture of conflicting



currents of water of different temperatures and specific gravities. The current, after passing Cape Lagullus, is gradually dissipated, and may be said to vanish; but the great bank of Lagullus is a sedimentary deposit left as a legacy by the stream.

Another equatorial current takes a westerly direction, and is accelerated by the trade-winds in the Atlantic; it is deflected by Cape St. Roque, and proceeds along the north-east coast of South America, receiving in its course the waters of the American rivers. It passes through among the West Indian islands into the Gulf of Mexico, and out into the North Atlantic, between Cape Florida and the island of Cuba. The stream is augmented by the discharge from about forty-eight rivers, draining all the countries *east* of the rocky mountains, and *west* of the Aleghanies, and from the southern boundaries of the great North American lakes to the shores of the Mexican Gulf; comprehending a space 1600 miles from north to south, and 1400 from west to east. The water issues in a torrent from the Gulf of Florida, at rates varying from 50 to 120 miles per day. It enters the Atlantic greatly heated, ( $84^{\circ}$  to  $86^{\circ}$  Fahrenheit,) and has run 1300 miles to the north-east, and only lost two degrees of its temperature; it flows on towards the great bank of Newfoundland, gradually curving to the eastward.

In consequence of the diurnal rotation of the earth on its axis, every point near the equator is carried forward, or *eastward*, with a velocity of nine hundred miles per hour. Now, the waters of the torid zone partake of this rotatory motion; but a stream of water flowing from the equator towards the poles arrives successively at parts having a slower rotatory motion than its point of departure; hence it follows that water in motion from the equator towards the poles will, in preserving a part of its initial rotatory motion, have a tendency to bend more and more eastward. Whereas polar currents flowing towards the equator will, from the same cause, have a tendency to bend towards the west; for example, the Labrador current clings to the American shore.

The superior heat of the water issuing from the Gulf of Mexico has been used as a means of ascertaining a ship's position. The mariner, by means of a thermometer, can ascertain whether he be in the heated stream or in the cooler inshore counter-current. It has been computed that the Gulf stream travels to the Azores, a distance of about three thousand miles, in eleven weeks; and it is to this warm stream that *we*, and the inhabitants of the western shores of Europe, owe the mildness of our climate, and the fertility of our fields. Neither the insular situation, nor geographical position of the British isles, (between the  $50^{\circ}$  and  $60^{\circ}$  of latitude,) nor their moderate elevation above the sea level, would insure to us those advantages we enjoy. Our mild and moist atmosphere, our green fields and verdant groves, result from a certain portion of heat



which is not due to the latitude we live in, but conveyed to us, and given out from a warm stream from the torid zone. Drift-wood, pierced by the teredo navalis, and other substances known to be produced only in warmer latitudes, are frequently washed upon our shores. A meteorological register kept at Plymouth for five years has proved that the mean annual temperature of the sea is higher than the mean annual temperature of the air. Near the Scilly islands and Land's End of England, the northerly stream prolongs the flood-tide, and retards the stream of ebb; so that for eighteen hours out of the twenty-four the stream runs to the northward. The heat radiated from the sea, and moisture condensed from a mild atmosphere, clothe the hills of *Green Erin* with perpetual vegetation; when, in corresponding latitudes on the coast of Labradore, the earth is bound up in frost or covered with snow. The warm stream dissolves the floating ice that might otherwise visit our shores from the north. Migratory fishes, taking advantage of the warm current, frequently visit the British isles. In the years 1831 and 1832, during the months of July and August, great numbers of albacore and boneta, fishes that frequent warm latitudes, entered the English Channel, and were committing great havoc among the pilchards on the coasts of Cornwall and Devonshire. Perhaps it may be to this northerly current, passing by Iceland into the polar basin, that we annually receive a visit from the immense shoals of herrings that migrate from the frozen north, to deposit their spawn in our bays and creeks. Although a considerable portion of the current from the Gulf of Florida may pass the British isles, the greater part returns to the torid zone. The stream curves to the east and south, from the Azores to the Madeiras, the Cape de Verdes, and, pressing upon the western shores of Europe and Africa, returns southward to temper the heats in the Gulf of Guinea; to have its temperature again raised in its tropical transit to the Carribean Sea, and thus keep up an endless circulation.

(To be concluded.)

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## LEADS, AND LEAD LINES.

*To the Editor of the Nautical Magazine.*

SIR—I think the above important articles of naval use, susceptible of some nautical improvement. My suggestion may perhaps, at first sight, not be thought of much importance, and hardly worth inserting amongst the valuable pages of the Nautical Magazine; but, let a seaman put them in practice when he is anxious about soundings in bad weather, and deep water; and then, if he pleases, he may condemn them.

In the first place, the lead is both wrong in form, and wanting



in weight ; that is to say, the usual deep-sea lead of 30lbs. should be 40, or perhaps even more ; (which weight I have used, and found the advantage of.) The common hand-lead of 7lbs. is of no use in bad weather, or the ship going fast : soundings are not to be depended upon by it ; it should not be less than 10 or 12lbs ; and more when a good strong arm is using it. The form of the lead should not be, as it is, nearly square, or the edges just taken off ; but it should be round. To most readers of this, it may be unnecessary to give the reason, which will be immediately apparent ; but many may not preceive that the old form contains about the largest possible quantity of surface to a given weight ; and the latter, the least ; and that, consequently, the lead of the latter description, will go best up and down, much better than the former ; and that, at great depths, this lessening of the surface is of more importance than at first sight may appear. Though not of so much consequence, yet it would be attended with advantage, to form the leads somewhat tapering from the base upwards. The deep-sea lead would come up, and tow astern, better ; and, the hand-lead would be all the better to heave out, by having as much of its weight concentrated at its end as possible.

The size of the common deep-sea line used on board merchant-vessels, is absurd : what necessity there can be for a twelve-thread line, (each thread of which will carry 100lbs.) it would, I think, be difficult to give a sound reason for. It will perhaps be said, that they are not *always new* ; but I would have them half the size, and renewed twice as often. In deep soundings, the importance of this difference in the line would be felt, in a considerable degree, more than the additional weight, or alteration in form of the lead. The rapidity with which such improved leads and lines would go down, I will venture to say, would astonish a seaman upon the first trial. And the diminution of pressure, or friction, upon the line, would cause (in a less degree) surprise in the hauling of it in.

As respects the hand-line, it perhaps cannot be reduced much ; or it would be liable to cut the hands in using it ; but the smaller it is the better ; and how far this can be carried, must depend upon practice ; which, as I have not adopted myself, I cannot at present do more than state my opinion of its advantage.

A SKIPPER.

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#### BIOGRAPHICAL ACCOUNT OF GEORGE HADLEY, ESQ.

GEORGE HADLEY was most intimately connected with the pursuits of his brother John, but he also deserves to be remembered on his own account. He was born in London, February 12, 1685 ; and, as his baptism appears in the registers of St. Giles's parish on



the 19th, it is most probable that his birth-place was in Bloomsbury. When he had completed his fifteenth year, he entered at Pembroke College, Oxford, and his name was inserted in the matriculation book of the university on the 30th of May, 1700. He did not remain there long enough to take a degree, but became a member of Lincoln's Inn, August 13, 1701. In 1708 he was admitted into "Strode, late benchers' chamber in Gatehouse-square," on the payment of £120 fine. This memorandum from the registers of the Inn, verifies a passage in his father's will, directing that £1800 should be paid him, because that sum, with the money laid out in purchasing and furnishing his chambers, would make up the £2000 intended for his portion. It likewise suggests a conjecture, which is not in itself improbable; for Sergeant Strode's marriage with his aunt Grace Fitzjames may have determined the young man's destination, and it is possible that he succeeded to his apartments; for though Sir George Strode\* died in 1702, they might have been occupied during the interval by some temporary tenant.

On the 1st of July 1709, Mr. Hadley was called to the bar. It appears from his will, that the property, which he possessed at his death, was all personal, and did not much exceed the patrimony which his father had left him; it may therefore be fairly argued, that the practice of his profession had not been lucrative to him. Indeed, all the account which has been collected of him, is rather connected with his fondness for mechanics and physical inquiries. He assisted his brother in making reflecting telescopes; and it has been mentioned in the history of the quadrant, that his ingenuity and manual dexterity contributed essentially to the original construction of the instrument. It is not, however, as a mere workman that he is even in this respect to be considered. There is a pamphlet in the British Museum, with the following title, to which some additions have been made with pen and ink, which are here inserted between brackets, "A description of a new instrument [invented by John Hadley, esq. V. P. R. S.] for taking the latitude, or other altitudes, at sea, with directions for its use. London, printed for the author [Mr. George Hadley] 1734." † Bound up in the same volume is a Latin version of the tract in a more compressed form, which appears to be a contemporary work of the same author. Now the absence of any book-seller's name seems to indicate that the publication was intended for gratuitous distribution, and we have a notice,‡ of nearly the same date, which mentions that the instrument might be had "at

\* It may be right to mention, that there was also Thomas Strode, who became a serjeant-at-law in the time of Charles the Second.

† A story has been noticed, which describes George Hadley as a mathematical instrument maker in the Strand. This has been shown to be highly improbable, and the particulars above stated (which have been since discovered) remove all doubts, if any could be attached to the conclusion there arrived at.

‡ It has been the common practice of opticians to provide an account of the quadrant to accompany the instruments which they sell, and much of the earlier descriptions of this kind is reprinted verbatim from G. Hadley's pamphlet.



Mr. B. Sissons, the corner of Beaufort's buildings, in the Strand, where a book is given with the quadrant, which shews its use in the plainest manner." It should seem, therefore, that this is the identical "book" which G. Hadley employed himself in drawing up, to familiarize the public mind to the recent invention. That something of this kind was necessary is evident from Desaguliers saying\* that "as soon as the common prejudice against new things is worn off, and the instrument is well known, I do not believe any ship will go a long voyage without one of these excellent quadrants."

On the 20th of February 1735, G. Hadley was elected a Fellow of the Royal Society, and on the 22d of the following May he presented his valuable paper, which is published in the 39th vol. † of the Phil. Trans. "concerning the cause of the general trade winds."

Galileo saw, with his usual good sense, that this constant atmospheric current was but a relative effect of the earth's having, in its motion towards the east, a greater velocity than the surrounding air; but he did not see the cause of the difference. He treats of the trade winds in the 4th dialogue of his *Systema Cosmicum*, and he considers that the earth's rotation about its axis carries the air along with it by means of the projecting portions of the terrestrial superficies. Many parts, however, of the surface being covered by the ocean, or otherwise smooth, he thought that the communication of motion could be only partial, and a general velocity could not be produced in the whole atmosphere equal to that of the globe. This is the argument upon which he chiefly rests, but he had previously stated, that "*corpora levia multo facilius quidem moventur, quam graviora, sed tanto minus apta sunt ad conservandum impressum sibi motum, cessante motrice causa. Unde aer, tanquam per se ipsum tenuissimus et levissimus facillime a quacunque minima vi movetur: sed interim ineptissimus etiam est ad conservandum motum, motore cessante.*"‡ No physical effect in nature is instantaneous,|| and an interval might be supposed to elapse before the earth's motion would at first be completely communicated to the surrounding atmosphere: during this time, the current of air, as Galileo suggests, must have set from east to west, but that season could only have been temporary, and must have long passed away: the other cause, however, which he adopts, is derived from a principle, which is now known to be untenable; for there is no tendency in matter under any form, to alter its own state of rest or motion.

Hooke again § speaks of "a continual breeze of air, which moves from east to west; which upon very good reason is concluded by Galileo, and most of our modern naturalists, to proceed from the earth's moving from west to east, and so leaving the air behind." Dr. Halley, however, not feeling satisfied with the causes assigned

\* Desaguliers' App. published in 1735.

† See p. 256.

‡ Ibid. p. 419. Ed. 1700.

¶ P. 58.

§ Posthumous Works, p. 88, 363.



for this relative motion, suggested another hypothesis. He thought that "the presence of the sun continually shifting to the westward, that part towards which the air tends by reason of the rarefaction made by his greatest meridian heat, is with him carried westward, and consequently the tendency of the whole body of the lower air is that way."\* This effect he attributes to a statical process, because, he says, "the air, which is less rarefied or expanded by heat, and consequently more ponderous, must have a motion towards those parts thereof which are more rarefied and less ponderous, to bring it to an equilibrium." Now, it may be fairly objected, that the air on which the sun has been exerting its full influence, ought to be more rarefied than that over which it has not yet become vertical, and consequently if such a cause produced a current at right angles to the meridian, it would rather be towards the east than towards the west. Dr. Halley understood the nature of the tides too well to fall himself into such a mistake, but some have been induced to modify his theory with an ill-defined and partial notion of the sun's attractive force carrying the air along with it to the parts over which it becomes successively vertical. This, however, is wholly without foundation: M. de Laplace says,† "je determinai les oscillations de l'atmosphère sur l'océan qu'il recouvre et je trouvai que les attractions du soleil et de la lune ne peuvent produire le mouvement constant d'orient en occident, que l'on observe sous le nom de vents alisés."

Hooke saw that there was "a necessary motion or tendency of the lower parts of the air near the earth, from the polar parts towards the æquinoctial, and consequently of the higher parts of the air from the æquinoctial parts towards the polar, and consequently a kind of circulation of the body of the air."‡ This immediately follows from the rarefying power of the sun's heat, and is assumed likewise by Dr. Halley, but no one before G. Hadley had rightly investigated the circumstances which must attend the direction of these currents; he first pointed out that as the air "moves from the tropicks towards the æquator, having a less velocity" of diurnal revolution "than the parts of the earth it arrives at, it will have a relative motion contrary to that of the diurnal motion of the earth in those parts, which being combined with the motion towards the æquator, a N. E. will be produced on this side of the æquator, and a S. E. on the other." On the same principle the returning current in high latitudes will have an inclination towards the east; but it is not our business at present to enter into details, or examine the particular instances, in which the general effect is modified by local circumstances, more

\* Phil Trans. Vol. XVI. p. 165.

† Exposition du Systeme du Monde, p. 280.

‡ Posthumous Works, p. 364.

§ Phil. Trans. Vol. XXXIX. p. 60.



especially as the subject has been discussed in an excellent manner by Capt. Basil Hall.\*

The simplicity and appropriate truth of Hadley's explanation makes it extraordinary to us at present, that it should not have been suggested at an earlier period: but to form a just estimate of its merit, it is not enough to think of his having solved a problem which baffled Galileo, Hooke, and Halley, but of his having completed it at a time when he so far anticipated the course of general information, as to have obtained little or no contemporaneous attention. Such is the authority of a name, and such the unwillingness of many to give up their preconceived opinions, that Dr. Halley's theory continued to maintain its ground till the latter part of the last century. In 1793 Dalton published his *Meteorological Observations and Essays*, in which he treats of this subject, and, with the liberality of a true philosopher, has introduced the following remarks into his preface. "The second essay, containing the theory of the trade winds, was, as I conceived when it was printed off, original; but I find since, that they are explained on the very same principles and in the same manner in the *Phil. Trans.* for 1735, by George Hadley, Esq. F.R.S." This appeared to the excellent author to be of sufficient interest to require the addition of a separate notice at the end of his preface. "I cannot," he says, "help observing here, that the following fact appears to be one of the most remarkable that the history of the progress of natural philosophy could furnish. Dr. Halley published in the *Phil. Trans.* a theory of the trade winds, which is quite inadequate, and immechanical, and yet the same has been almost universally adopted; at least I could name several modern productions of great repute, in which it is found, and do not know of one that contains any other. . . . on the other hand, G. Hadley Esq. published, in a subsequent volume of the same Transactions, a rational and satisfactory explanation of the trade winds; but where else is it to be found?"†

There are two other papers of G. Hadley in the *Phil. Trans.* of less importance indeed in themselves, but tending, like the first, to show the direction of his favourite pursuits. When records of meteorological observations were presented to the Royal Society, it appears from the minutes that they were usually placed in his hands. It was in consequence of this reference that he drew up the "account and abstract of the Meteorological Diaries communicated to the Royal Society, for the years 1729 and 1730."‡ When the paper was read, thanks were voted to him, and a continuance of his remarks were requested "as occasion offered." In

\* *Fragments of Voyages and Travels*, 2d. series, Vol. I. chap. VII. See also Daniel's *Meteorological Essays*, p. 102, 465.

† The case has since been made still stronger. In 1802 Dr. Kirwan published in the 8th Vol. of *Trans. of the Royal Irish Academy*, a dissertation on the variations of the atmosphere; and in the 3d section he not only upholds Dr. Halley's theory, but states objections which he considers as fatal to Hadley's.

‡ *Phil. Trans.* Vol. XL. p. 154.



compliance with this request, he communicated the paper on the meteorology of 1731, 2, 3, 4, and 5. \* This was read Dec. 9. 1742; and several journals of a later date were referred to him; but we have not the result of his examination of them.

One other communication has been found to be minuted as made by him in March, 1742. It consisted of some remarks on Dr. Pack's map of Kent; but about this time he probably began to retire from active life. He lost his brother John in the beginning of 1744, when he had himself nearly completed his 59th year, and, if not before, he possibly soon after retired into the country. Having never married, he had an apartment in his nephew John Hadley's house at East Barnet, which was provided with his own books and furniture; but during the greater part of his later years, his comforts were provided for by a residence with the affectionate family of his sister Elizabeth: among them he died at Flitton in Bedfordshire, and to them he bequeathed the larger portion of his property. He had contemplated the possibility of his being buried at East Barnet, for he left a small sum to be distributed among the poor of that place, in case his executors should think fit to have his body deposited there with others of his family; but the distance, as well as other circumstances, made it desirable that the funeral should take place where the death had occurred. His grave was therefore made in the chancel of the parish church, and immediately over it, on the north wall, a tablet still exists with the following inscription.

In memory of  
 GEORGE HADLEY, ESQ.  
 who died June 28, 1768,  
 ætat. 84.†  
 who for his singular  
 benevolence and integrity  
 was universally respected.  
 As a lasting testimony  
 of gratitude towards  
 a most kind and deserving friend,  
 this marble was erected  
 by his affectionate nephew,  
 HADLEY COX, A.M.  
 Vicar of this Parish.

It has been mentioned that Hadley had three sisters. Anne, the eldest, was born Dec. 21. 1680; she married Mr. Nicoll, of Hendon,

\* Phil. Trans. Vol. XLII. p. 243.

† He was born in February 1685; and it may be noticed, that he had not completed but had only entered upon his 84th year. About 1740 the custom was revived for the president of the Royal Society in his anniversary speech to enumerate the fellows who had died in the preceding year. No notice, however, appears in 1768 of the death of George Hadley. He probably was lost sight of when he had left London; and as in 1737 he took up his bond for annual payments and compounded for all future contributions, there was nothing to recall attention to the termination of his life.



in Middlesex, who was a magistrate, and of a good and well-connected\* family. She died 1727, without leaving any family. Katharine, the second, was born Feb. 26, 1684, but nothing more has been discovered of her history: it is possible, however, that she died before her father, since he made no provision for her in his will.† The youngest, Elizabeth, was born Feb. 13. 1687; she became the second wife of John Cox, a merchant of London, and died Feb. 9. 1721.‡ Her death was most probably the consequence of having given birth, on the 6th of January, to her only child, Hadley Cox. The whole family seem to have been most closely and firmly united to each other; but it is not merely in this respect that a short account of the Coxes becomes interesting, since it will also lead us to a very curious fact connected with the history of John Hadley himself.

Hadley Cox was educated at Hackney, where he was a schoolfellow of the sons of Lord Chancellor Hardwicke, and had the means of showing them some kindness, which was never forgotten. He entered at Corpus College, Cambridge, in 1739, and being contemporary there with the Hon. Philip Yorke, who afterwards succeeded his father in the earldom, had the opportunity of improving their early friendship. Mr. Cox was elected fellow of his college in 1746; he took orders in 1748, and in 1750 he was presented by his noble friend to the rectory of Fordham in Essex.¶ In 1754 he married Charlotte, daughter of general Parslow, a distinguished officer, who had received his first commission from the great Duke of Marlborough and who was engaged in most of the principal actions of the wars previous to the peace of 1763. They had four children, the three eldest of whom James Hadley, Charlotte, and John were born at Fordham, before the family were removed by the kindness of their friend and patron. In 1762, the rectory of Blunham in Bedfordshire became vacant by the death of the Rev. Ph. Birt, and as the patronage belonged to the Marchioness de Grey, whom Mr. Yorke, now Vicount Royston, had married in 1740, he gave the presentation to Mr. Cox. He exerted himself, however, and likewise procured for him what was not so easily obtained. Mr. Birt had also been Vicar of Flitton-cum-Silsoe, which was close to Wrest Park, where his lordship was at the time residing. But this was in the gift of the dean and canons of Christ Church, who were unwilling to present any who was not of their own body. Crudwell, however, in Wilts, of superior value, was procured for Mr. Gyles, who as student of Ch. Ch. was entitled to Flitton, and by this

\* For the Nicolls, see Lysons's *Environs of London*, Vol. III. p. 10.

† According to the registers of St. Giles's parish, she was baptised on the 27th, which seems to mark her for a sickly child.

‡ 1720 on her tombstone at East Barnet, but this must have been 1720-1, since her epitaph says that she was "aged 33."

¶ He was therefore the clergyman who undertook the care of his orphan cousin, John Hadley.



exchange Mr. Cox was fixed immediately in the neighbourhood of those to whom he was indebted for his preferment. Here in 1766 his youngest daughter was born, who was named Jemima after the marchioness de Grey, who was one of her godmothers. In 1771 Mr. Cox became Archdeacon of Bedford, through the good offices of the same noble family, and the bishop of Lincoln\* himself appears to have been kindly disposed towards him. These circumstances gave him the home, in which he and his family soothed the decline of life for his venerable uncle: and he continued himself to enjoy it till 1782. On the 27th of March in that year he died, and was buried in the chancel of his own church. He had indeed requested, if his death should take place when he was at or near Flitton, that his grave should be made "near the place where the remains of his late dear uncle George Hadley were deposited;" but this is not the most interesting part of his will, as appears from the following extract. "I give to my son James Hadley my silver watch, made by Graham, which was given to me by my late uncle George Hadley, Esq. on condition that he (my said son) keeps it as a memorial never to be parted with. Also I give to my said son, James Hadley, my reflecting telescope, upon the like condition that he never part with it, it being the first of the sort that ever was made, invented by my late uncle, John Hadley, Esq. and made under the direction and with the assistance of his two brothers, George and Henry."

This son, James Hadley Cox, was educated at the Charter House, having obtained a nomination to it in 1763 from the Earl of Hardwicke who was one of the governors; in 1771 he entered as a commoner at Christ Church, and in 1772 he became a student of that house. The Right Rev. James Yorke, Bishop of Gloucester and Dean of Lincoln, had been his godfather, and in June 1781, unsolicited and in the kindest manner, gave him the presentation to the rectory of Bonsal near Matlock. This vacated his studentship in the following year, and he continued to reside on his living until he died there in Feb. 1795. His younger brother John, who was an ensign in the 17th regiment of infantry, had fallen in America during the campaign of 1777; but his two sisters survived him, and carefully preserved the telescope.† Mrs Jemima Cox, who was the last of the family, died at Rochester in 1817, and left the ‡ portraits and all the other relics which she had of the Hadley family, to Mrs. Skinner of Walkern, in Hertfordshire, who was daughter of her first cousin, Major Parslow. It was impossible for her

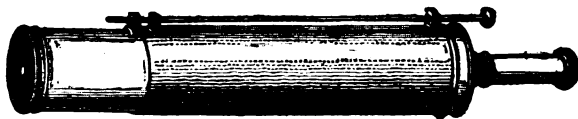
\* Dr. Green held the see from 1761 to 1779. He appears to have been of Cambridge; and a clergyman of the same name was master of Corpus Christi College, where Cox was brought up, from 1750 to 1764.

† Graham's watch was given to Mr John Hadley of Colchester, and is supposed to have been one of the two which he possessed at the time of his death, but it was unfortunately disposed of beyond recovery before it could be procured by those who knew and felt the value which was associated with it.

‡ Among others, the valuable and interesting likeness, formerly mentioned, of John Hadley.



to have more completely fulfilled her father's last wishes and injunctions; all has been religiously preserved, and a memorandum-book of old Mr. George Hadley, with some of the other papers, have furnished valuable portions of the few notices which have been now collected of the family. The telescope is a great curiosity, but the first sight of it suggests a difficulty. Smith distinctly tells us \* that the earliest reflecting telescope which Hadley made was a Newtonian, and Desaguliers † says the same. They were both in correspondence on this subject, and apparently on intimate terms, with him: they could hardly, therefore, have been mistaken; but the telescope in question is a Gregorian, and therefore does not seem strictly to answer the description which archdeacon Cox has given of it. The mirror also, though now above 100 years old, and untouched as it came from the hands of its maker, betrays none of those imperfections which are said to have belonged to that which was originally presented to the Royal Society. ‡ It must, therefore, be most probably of a later date. A consideration, however, of the words used by Mr. Cox will detect an ambiguity in them which will reconcile the apparent contradiction. In describing his reflecting telescope as "the first of this sort that was ever made," he could not have meant, as the words might seem to imply, the first reflector in opposition to the dioptric telescope, for Newton had completed one, half a century before: but there is more than one sort of reflector, and no one before Hadley is known to have constructed a Gregorian. || In this sense the specimen has additional value, and accurately answers to the expression which is applied to it. The tube is about  $11\frac{1}{4}$  long; the principal mirror is 2 inches in diameter, with a perforation of  $\frac{1}{4}$  an inch, the focal distance being 8. The eye-piece § is  $2\frac{1}{2}$  inches in length, and the whole answers well to that which Desaguliers ¶ described "as perfected by John Hadley, Esq. in 1726." The annexed figure will give an idea of its



\* Remarks, Sect. 136.

† Appendix to Gregory's Optics, p. 212.

‡ Bradley does not appear to have used this instrument after 1732, when he left Wanton for Oxford. In 1753, he began again to observe at Greenwich with a six-foot Newtonian. This is now in the possession of Mr. Best, of Greenwich, and is clearly a different telescope from that which was originally made by Hadley.

|| This interpretation is confirmed by the use of the same word by Desaguliers. After speaking of the first invention of Newtonian and Gregorian telescopes, he says (App. p. 243) that there were no attempts after 1673 till the time of Hadley "to make either of these sorts."

§ Desaguliers says (App. p. 252) that Hadley used a double eye-glass "to prevent the object being coloured at the edges of the aperture;" but it should be added, that by this means the object is seen erect, which shows that these small Gregorians were intended for terrestrial rather than for astronomical observations. In the present specimen, the small aperture for the eye is  $\frac{1}{25}$ th of an inch in diameter, which is something larger than the estimate formerly given, of  $\frac{1}{40}$ th.

¶ Appendix, p. 250.



general construction : allowance must only be made for a departure in one single instance from strict accuracy of representation. The small mirror is drawn nearer than it is in the original to the extremity of the instrument : it could not otherwise have been introduced into the drawing. Instead of being moved by the adjusting screw, as is now the case, in a slit, it is fixed to a brass tube which slides in that which is held in the hand. It is remarkable that Newton adopted this same arrangement for his first telescope, and it is not without its advantages : the motion by this means is steadier, and the speculum is always preserved under the same degree of protection from the external light. Hadley cut an opening through the outer tube, so that a mark on the inner might be brought to a given position, when the instrument was in a mean focal adjustment. This outward case, at the bottom of which the mirror was fixed, is covered with shagreen, and the whole is light, and calculated to be used without the support of a stand.

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#### THE HARD-UP REEFER.

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"While others, on were seen to glide  
Still quaffing pleasure's cup ;  
With weather tide, and wind a beam,  
Jack, always was *hard up*."

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#### A RUN ON SHORE.

MR. EDITOR,—May you always have a run of good luck, and run through endless *editions*, for the civil notice you have been pleased to take of me, which I consider very pleasing. In my various peregrinations, during a long and somewhat unsettled life, I cannot say that joy, pleasure, and prosperity have been frequent condiments to season the ingredients which have formed the component parts of my destiny. The diversified events of my life I might symbolize by holding up the jacket of a harlequin, were it not that in that pretty piece of patch-work there are far more gay bright spots than I can boast ; mine being of certain tints, for the most part, like what poor dear Sir Walter Scott, of blessed memory, was fond of designating as "*sad colour*."

Now, sir, though I know *sadness* quite *by heart*, I am sadly deficient in the power of defining critically what "*sad colour*" is : in this case, as in countless others, dictionaries throw no light upon the subject. Doth it resemble the "*brown horror*," which Pope sublimely breathes upon the woods, or the "*dunduckity-mud-coloured*" hairs of an old donkey's tail ? Fie on it, Dennis Drift, how you do wander ! surely you did not come straight into the world : you have ever gone on crookedly, and will go so, mayhap, unto the very end, like unto a corkscrew. Men who have been great ramblers are, alas, most sadly prone to use a rambling style ; assuredly such chaps must *bite* their pens.



But let me come back to the place from which I have been diverted, where I left joy, pleasure, and prosperity waiting for me. How agreeable it is to come back to such things! although it is so seldom agreeable to fortune, to let such things come back to us. I am indebted to your magazine, No. 41, sir, for a most agreeable surprise, where, in an article entitled "A Dignity Ball" mention is made of a person for whom I entertained the most sincere regard; I allude to Mr. Williams, formerly my shipmate. Your correspondent styles him Baracouta Jack: I know he often was so called; but when I first became acquainted with him, *Hardup* was the name he chiefly went by. I think I may venture to say I am not the only one of your readers who will feel pleasure to have his recollections of this amiable man revived by further anecdotes.

Jack, on the subject of his private history, even in his most unbending moments, did not choose to be communicative. Once he said to me, and that with a most serious phiz, "If my conscience had as many stings in it as my memory, how great a wretch I then should be! Why, Dennis, are you so inquisitive about my history? it is '*a Chapter of Accidents*;' nay, a huge folio volume of misfortunes, and I am anxious to forget what you are so desirous to make me remember."

Of course, I could not compel a man who spoke so plainly, through my reiterated importunities, to enter upon reminiscences so painful. All that came within the range of my own observation I treasured up and noted down, regretting most sincerely that I knew so little of this worthy, witty, and eccentric creature. It is now nearly five years since, when on a tour in France with a few brother officers, a gay Parisian, who fell in with us, proposed our taking a short cut across the country, saying he could direct us to a place worth seeing, as a striking contrast to the luxury and sophistication prevalent in all large cities. In that village, he said, you will see peasants living in a state of almost primæval simplicity. To arrive at this singularly situated place, we had to cross a river, in a most unwieldy ferry-boat; in that, amongst a multiplicity of passengers, I fell in with an Englishman named Thomas Truck, who once commanded a West Indiaman, and, to my great delight, I found he had been the schoolfellow, the friend, and fellow-apprentice of my friend Jack Williams, for he first started in the merchant service. From Mr. Truck I gained much information concerning poor *Hardup*, which I will transfer to you, if you will indulge me by allowing me to do it in my own way. But I must begin with certain matters respecting the ferry-boat, for there commenced my adventure with Tom Truck.

Yours faithfully,

D. D.

[We insert Dennis's letter by way of recognition, regretting that we must reserve his adventure in the ferry-boat.—Ed.]



TABLE XIX.

*For reducing Rhenish feet to English feet, and English feet to Rhenish feet.*

1 Cologne or Rhinland foot = 1·0297236 English foot.

1 English foot = 0·9710373 Cologne foot.

Cologne or English Ft.	English Feet and Dec. parts.	Cologne Feet and Dec. parts.	Cologne or English Ft.	English Feet and Dec. parts.	Cologne Feet and Dec. parts.	Cologne or English Ft.	English Feet and Dec. parts.	Cologne Feet and Dec. parts.
1	1·030	0·971	38	39·129	36·899	75	77·229	72·828
2	2·059	1·942	39	40·159	37·870	76	78·259	73·799
3	3·089	2·913	40	41·189	38·841	77	79·289	74·770
4	4·119	3·884	41	42·219	39·813	78	80·318	75·741
5	5·149	4·855	42	43·248	40·784	79	81·348	76·712
6	6·178	5·826	43	44·278	41·755	80	82·378	77·683
7	7·208	6·797	44	45·308	42·726	81	83·408	78·654
8	8·238	7·768	45	46·338	43·697	82	84·437	79·625
9	9·268	8·739	46	47·367	44·668	83	85·467	80·596
10	10·297	9·710	47	48·397	45·639	84	86·497	81·567
11	11·327	10·681	48	49·427	46·610	85	87·527	82·538
12	12·357	11·652	49	50·456	47·581	86	88·556	83·509
13	13·386	12·623	50	51·486	48·552	87	89·586	84·480
14	14·416	13·595	51	52·516	49·523	88	90·616	85·451
15	15·446	14·566	52	53·546	50·494	89	91·645	86·422
16	16·476	15·537	53	54·575	51·465	90	92·675	87·393
17	17·505	16·508	54	55·605	52·436	91	93·705	88·364
18	18·535	17·479	55	56·635	53·407	92	94·735	89·335
19	19·565	18·450	56	57·665	54·378	93	95·764	90·306
20	20·594	19·421	57	58·694	55·349	94	96·794	91·278
21	21·624	20·392	58	59·724	56·320	95	97·824	92·249
22	22·654	21·363	59	60·754	57·291	96	98·853	93·220
23	23·684	22·334	60	61·783	58·262	97	99·883	94·191
24	24·713	23·305	61	62·813	59·233	98	100·913	95·162
25	25·743	24·276	62	63·843	60·204	99	101·943	96·133
26	26·773	25·247	63	64·873	61·175	100	102·972	97·104
27	27·803	26·218	64	65·902	62·146	200	205·945	194·207
28	28·832	27·189	65	66·932	63·117	300	308·917	291·311
29	29·862	28·160	66	67·962	64·088	400	411·889	388·415
30	30·892	29·131	67	68·991	65·059	500	514·862	485·519
31	31·921	30·102	68	70·021	66·031	600	617·834	582·622
32	32·951	31·073	69	71·051	67·002	700	720·807	679·726
33	33·981	32·044	70	72·081	67·973	800	823·779	776·830
34	35·011	33·015	71	73·110	68·944	900	926·751	873·934
35	36·040	33·986	72	74·140	69·915	1000	1029·724	971·037
36	37·070	34·957	73	75·170	70·886	2000	2059·447	1942·075
37	38·100	35·928	74	76·200	71·857	3000	3089·171	2913·112



## THE PRESENT SYSTEM OF NAVAL CONSTRUCTION.

*To the Editor of the Nautical Magazine.*

SIR,—Having frequently heard the merits of the present surveyor of the navy as a constructor rather freely discussed, his principles of construction declared to be diametrically opposed to sound science, and his ships *all* pronounced to be decided failures, I solicit the indulgence of a small space in your pages for a short examination of the system of Captain Symonds, as compared with the theory of naval construction developed by Chapman from mathematical investigation, in which I think it will not be difficult to prove that the *practice* of the one agrees perfectly with the *theory* of the other, and that the form adopted by Captain Symonds is precisely that which Chapman shews to be the very best to produce a PERFECT vessel, and that the reasons he assigns why this form should not be given do not apply to ships of war: if, therefore, Captain Symonds be condemned by the self-elected tribunal which has sat in judgment on him, he may have the satisfaction of knowing that he has sentence passed on him in good company.

The work to which I shall refer in the following observations, is that which was translated by the Rev. Dr. Inman for the instruction and use of the students of naval architecture, viz. the *Architectura Navalis Mercatoria*, or a treatise on the construction of *merchant* ships, and which, as its title implies, relates entirely to ships built for traffic and burthen. Why this book was selected as the text-book of the college to the exclusion of a much later work of the same author on *ships of war*, which was written, too, at a period when thirty years additional experience must have increased the value of observations made by so shrewd and discerning a man as Admiral Chapman, can only be explained by the professor on whom devolved the choice of the subjects for his pupils' studies.

The peculiarity of Captain Symond's method consists in giving a very rising floor (as much as is consistent with the requisite capacity for the stowage of the ship) and great breadth and fulness, at and about the load-water line; by which form he proposes to obtain great stability, with the power of very much reducing the quantity of ballast hitherto deemed indispensable. We shall see by referring to page 79 of Dr. Inman's translation of Chapman, what are the means recommended by him to attain the ends here proposed; he says, "To give to a ship the property of sailing and beating to windward, it is necessary to give it great *breadth* in proportion to its *length*, to fill it *much* towards the load-water line, curtailing it in the bottom." Here we have as perfect a description of Captain Symond's peculiar midship sec-



tion as words alone, without a drawing, can give, viz. "great breadth in proportion to length, and to be filled *much* towards the water-line, curtailing it in the bottom." The object to be obtained by giving this form to a ship is that she may sail and beat well to windward, without which property no ship could be called an efficient man-of-war. The continuation of the above quotation is, "such a ship would require a numerous crew, because of the largeness of the sails and the weight of the anchors." It will be right to observe here, and to bear in mind throughout the whole of the following observations, that, as the author is writing on the construction of a merchant ship, the great object of his aim is to obtain good sailing qualities as *secondary* considerations, the *primary* ones being the power of carrying a large cargo with as small a crew as safety will permit. In a ship of war, on the contrary, the service of the guns demanding a crew so numerous, that each watch necessarily out-numbers the whole complement of a mercantile ship of equal capacity: the objection that "such a ship would require a numerous crew," &c. is totally inapplicable to the case under consideration; and since the weight of every article entering into the fabric and equipment of a ship of each class is now accurately known, and the total necessary displacement consequently ascertained within a very few tons, the "large cargo," which makes so prominent a figure in Chapman's disquisition, sinks into comparative insignificance, and leaves us unrestricted by its importance.

Another extract from the same page is as follows: "If it be required to navigate a ship with few men, it should have *little* breadth in proportion to its *length*. It would also be enabled to carry a great lading in proportion to its equipment of men, by giving it great fulness in its bottom; but such a ship would *sail badly close to the wind*, and would come about with difficulty in a hollow sea." Now, as a great lading in proportion to its equipment of men is not required in a man-of-war, and a small crew (however desirable from economy) is unattainable from the necessary armament, I must confess myself at a loss to account for that support given to the "*little breadth and great fulness of bottom*" system, in the face of Chapman's acknowledgment, that such ships would sail badly close to the wind, and work with difficulty in a hollow sea.

By reference to page 24, we find he thus concludes a mathematical investigation, "that as it is proper to give to a ship all the stability it is possible, it is right to enlarge it near the load-water line, so as to raise the centre of gravity of displacement. This is a thing to be attended to principally in ships which have great weights in their upper works." This applies forcibly and conclusively to vessels of war, whose guns cannot be otherwise considered



than as "*great weights* in the upper works." On the important object which Captain Symonds has attempted to attain, the considerable reduction of ballast, we will allow Chapman again to speak for himself. At page 80 he says, "to enable a ship to sail with a small quantity of ballast, it is necessary to fill the body between wind and water; *but*," he continues, "a ship of this description would require a considerable quantity of sail, which would render it necessary to have a great number of men." He here gives the means of obtaining the end, and states the only objection to their application; this objection, we have seen already, does not prevent the filling of *ships of war* between wind and water to the fullest extent that other important considerations may justify, and, *consequently*, the great diminution of ballast. Professor Inman, in a note to his translation, (page 242,) in which he has given the correct investigation of an expression from which Chapman had omitted an important term, arrives at the following conclusion:—"We see how greatly the stability of a ship is increased by filling it between wind and water, and how little in proportion it is altered by a partial displacement of the lading and ballast. This is what Chapman observes, and hence it is that he recommends the construction of *ships of the line with rising floors*." In practical illustration of this mathematical deduction, Dr. Inman has given the results of calculations made by himself on two 74-gun ships, of very nearly the same principal dimensions and displacements; the one having *rising floors*, the other *flat* ones; the first being more filled about the water-line, than the second: these results shew an excess of stability in the first ship of about *one-sixteenth*, and thus prove how desirable it is that all ships which require great stability should be so formed.

It would be tedious to multiply quotations from this work, numbers of which might be cited in favour of Captain Symonds' principles; but as by so doing I might perhaps procure my exclusion from your pages, I shall bring forward but one more, leaving it to those who may feel inclined to investigate the same source for conviction; assuring them, there is ample ground yet untouched on by me. In his chapter on the proportions for privateers, (a class of vessels which Chapman considers should partake of the properties both of merchantmen and ships of war,) he says, "we are restrained from carrying these proportions" (of breadth to length) "as far as might be wished, but we must be content with *less* than the *greatest perfection* in the property of sailing well, since the *cost* of the *ship*, with the *pay* and *subsistence* of the *men*, which amount to a great sum, would exceed the advantages gained." These considerations may be sufficient to deter private adventurers from "carrying these proportions as far as might be wished," but we, as the first maritime nation of Europe, should not be content with "*less than the greatest perfection*," when



attainable, even if at the expense of a little extra cost. It has, however, been incontrovertibly proved, that the expense of building Captain Symonds' ships is considerably less than those of the same class hitherto built; our best thanks are therefore due to him for the great stride the science of naval architecture has made under his auspices.

In the work recently printed with such unexampled munificence for gratuitous distribution, by Captain H. Beaufoy, containing the results of experiments conducted by his late father, with astonishing care and precision, through a period of thirty-six years of his valuable life, I find the following passage, which I cannot forbear extracting, containing the strongest experimental evidence that could be wished for, that the form of Captain Symonds' ships is such as to give them the *least* possible *direct* resistance, and at the same time the greatest opposition to lee-way. The bottom of a floating solid should be made *triangular*, as in that case it will meet with the *least* resistance when moving in the direction of its longest axis, and with the *greatest* resistance when moving with its broadside foremost." No comment of mine could add force to the application of this quotation; I shall therefore leave it to speak for itself.

It has been asserted on one side, that Captain Symonds is a "good mathematician and a sound algebraist;" on the other, that he is ignorant of the first principles of that science. I have not the honour of a sufficient acquaintance with that gentleman to know which of these conflicting affirmations to credit; perhaps neither is entirely the fact; but to both I would say, if he *have* studied mathematics, he has applied his acquirements to an object which will render his name glorious in the annals of his country: if he *have not*, 'tis pity but that he had; for what might not that mind have done, which, unaided by science, could have performed so much, if theory had been united to that great experience and observation which, in the latter case, must alone have been his guide.

Much has been said on both sides respecting the appointment of Captain Symonds to the situation he now holds. A strong party was formed against him in the House of Commons, and speeches were made against him; some by those who knew little, and some by those who knew nothing of the merits of the case under discussion: the dismissal of the former surveyor, the appointment of the new one, and the neglect of the school of naval architecture, were made the cat's paw of the opposition, to impugn the conduct of the then naval administration. The question was met by sir James Graham on the fairest grounds: he admitted that Captain Symonds was unknown to him except in his profession, and that he had selected him on account of the inquiries he had made, and of the highly-approved ships which he (Captain Symonds) had built; he referred the proof



of the correctness of his appointment to the test of a ship of Captain Symonds' construction then ready for sea, and staked the credit of the surveyor on the fate of the pending experiment. Had any other gentleman been chosen to fill the vacant situation, from the newness of the first lord to office, the selection must necessarily have been made at the recommendation of others on whom he could rely for advice; and how few could bring their *own recommendation* of having built "highly-approved ships." He was firmly persuaded, he said, that Captain Symonds was more competent than any other gentleman he could possibly select, and that he had acted in strict adherence to what he conceived to be for the best interests of the navy. The promised test has been applied; official reports have been returned from the highly honourable professional officers appointed to conduct the trial. In every case the returns have been unmeasurably in favour of the surveyor's ships, and this not by the captains of those ships alone, but their opponents have uniformly confessed themselves beaten. Above all, the party which so strenuously opposed the appointment of the surveyor has been since in power; and during the time they had the ascendancy, no attempt was made to shake his credit, but he had the triumph of feeling that his merits were acknowledged by those who but a few months before had exerted their power to set him aside. I leave it with you to determine, whether I have fulfilled the promise I made at my commencement, and subscribe myself,

Your obedient servant,

Ναπηγος.

We thank our correspondent for this letter, and annex the following, which we have received on the same subject.

ON THE NEW PLANS OF SHIPS FOR THE BRITISH NAVY,  
INTRODUCED BY CAPT. SYMONDS.

SIR,—Allusion having been several times made in the Nautical Magazine to the opinion of scientific shipbuilders, on the plans of Capt. Symonds, I beg to observe, that I conceive a very erroneous opinion has been propagated on this subject, in the statement that shipbuilders, scientifically educated, have all condemned his plans.

It is true, that a few industrious writers, *somewhat* acquainted with the mathematical principles of shipbuilding, have circulated, that there is a total want of knowledge of naval architecture displayed in the new plans of ships; but, on the other side, it may be confidently asserted, that those who are *best* acquainted with the principles of shipbuilding, deduced from the physico-mathematical sciences, and from observations of ships, readily admit that the new forms of ships are most decided improvements on the old ones heretofore produced in England.



Fast sailing is the great desideratum in the British navy, and the new plans are of that description of form pointed out for that purpose by approved scientific writers. The reports, also, of the qualifications of the new ships at sea, concur in shewing that the ideas of the Surveyor of the Navy in adopting his present forms were not ill-grounded. There is no reasoning against facts; and that the new plans produce most splendid ships, all naval men avow, who have seen their performances at sea.

The distinguishing characteristic of Capt. Symonds' plans for ships is, increase of principal dimensions, particularly of the breadth. That the augmentation of ships of war, is a principle which is conducive to superior qualities, no one can deny who is at all acquainted with the common historical progress of shipbuilding, putting out of the question a minute analytical acquaintance with ships. With regard to the proportional breadth, although Capt. Symonds has increased it considerably, it may be adduced, in vindication of the justice of his ideas, that he has not enlarged it so much as an approved writer in the "Papers of Naval Architecture" recommended, vol. iv. p. 59; a work which was conducted by Messrs. Morgan & Creuze, of the School of Naval Architecture. Nor does the breadth now adopted exceed the proportional breadth of the Gibraltar, a man-of-war exceedingly well spoken of by many eminent naval officers.

The writers against Capt. Symonds, who regard only his minor disagreements with theory, bring to my mind a class of persons, who, if they were describing the sun, would dwell principally on the dark spots on its face, and would thus give us to infer that the qualities of obscurity and opacity belonged to that orb, instead of its characteristic splendour and glorious brilliancy. There is no writer on naval architecture, in England, who has not committed errors in his disquisitions; and some of considerable attainments in the mathematical principles of this art have proposed the most foolish plans for building and equipping ships. The philosopher, or lover of truth, ought to rejoice at every improvement, let it come from whatever quarter it may. In an art like that of shipbuilding, which has not yet been wholly reduced to certain principles, perfection is not to be expected, but we should give our plaudit for every approximation that is made to it.

As the progress of shipbuilding may suffer from the injudicious writings of some of its professors against the decidedly improved plans of Capt. Symonds, such men should seriously consider the course they are taking; and I hope that the unjust or splenetic effusions of a few will not be taken as the sober dictates of an useful body of men.

The views I have here given of the principles of improvement in naval architecture, accord with what I published on this subject eleven years ago. I have since advocated them, through evil and



through good report, and I am prepared, after mature consideration, to maintain them.

I am, sir, your humble servant,

JOHN MAJOR,

A Foreman of H. M. Dock-yard, Chatham, formerly Student of the School of Naval Architecture.

*To the Editor of the Nautical Magazine.*

H. M. P. Gulgare, Holyhead, 15th July, 1835.

SIR,—It seems to be matter of surprise, and even of annoyance, to some persons, that the “captains and other officers,” serving in Captain Symonds’ ships,” should admire and praise them as they merit. That a seaman loves the ship he serves in, is as *common*, as it is *pleasing* to observe: why, then, those who have had experience of the qualities of “Captain Symonds’ ships” should not be allowed to express their opinions respecting them, appears to me very extraordinary. And, if the assertions made by these officers, of the comparative superiority of these vessels be not true, why do not the officers of the ship with which the comparisons have been made (either on service or on paper,) come forward, and disprove them?—for, it cannot be supposed there is any peculiar fascination about “Captain Symonds’ ships,” that would induce a “thick-and-thin admiration,” not felt for other ships by those who sail in them.

As to the *novelty* of the “mode,” the *facciosos* place themselves in a dilemma:—on one hand, they blame Captain Symonds for introducing novelties, and then, again, they say there is *no* novelty, but principles known and practised formerly; and in this latter view I perfectly agree with them; and, moreover, I firmly believe that, whenever a *seaman* may preside on the drafting-floor, the same principle will be found to obtain.

As “an Impartial Observer” has done me the honour to name me in his communication to you, (in the June number, which I have only now received,) I beg to be allowed to say a few words in reply to him.

With respect to the “ungrateful remarks, &c.” I have to observe, that it was not alone the ships built by our own *scientific* surveyors that bore the brunt of the war. In proof of this, I could adduce the names of the foreign-built line-of-battle ships, frigates, and corvettes, that from the time of their capture were never idle, but shared every battle and every breeze, and were universally admitted to be the crack-ships in every fleet, and on every station. “An Impartial Observer” does not help the *scientifics* much when he says that “from under a cloud of prejudice, whether by accident or otherwise, some ships did spring up, that were perfectly



good models." Now, Sir, I am *driveller* enough to prefer the models upon which ships are constructed by a man who knows from experience what a ship *ought* to be, to the *accidental* perfections that may spring up from under a cloud of scientific ignorance.

Again, "It was not so entirely owing to any peculiar vice in our mode of building, as to the contracted dimensions, &c. &c." Pray who was to blame for these contractions? The *mode* of building we sailors know little about, perhaps; but the dimensions and lines, in reference to sailing, stowage, fighting our guns, &c. are what we *do* know; what these Euclidites do not know, and what renders it (more than any other thing) necessary that a *naval officer* should dictate on these matters.

Another grievous complaint against the present surveyor is, that "he builds cutters, fancying he is building ships." Now, as a boy, I remember asking why it was, that, seeing cutters were so swift, and so handy, in proportion to their size, *larger* cutters were not built:—the style of rigging and sails were objected to me; when I replied, "why not build large cutters, and rig them as ships?" About that time came out our eighteen-gun brigs; which were called, at first, "cutter-brigs;" and I hope "An Impartial Observer" will not differ from me in the opinion that they were the best class of vessels built by our scientifics during the last fifty years of their reign.

"Owing to this cutter-like mode of construction, the *Vestal* is obliged to be sailed two feet\* by the stern, &c." In the name of all that is tarry and briny, what very overwhelming evil is there in sailing a frigate two feet, or, in the case of the *Pique*, three feet by the stern, or in getting the two foremost guns aft in the *Vernon*, if such be their best trim, and if with that trim these vessels beat all others?

I am, sir, your very obedient servant, G. DAVIS.  
Captain H. M. P. O. Service.

#### MARINE INSURANCE—ITS ABUSE.

IN a former page of this volume, we have recorded the resolutions passed at a late meeting of the inhabitants of Kirkcaldy on the subject of marine insurance; and, considering the sentiments expressed on this occasion not only creditable to those by whom they were delivered, but interesting from the very nature of the subject, we are induced to believe that they may not be unacceptable to our readers. The first gentleman, BAILLIE ANDREW ARTHUR, expressed himself as follows:—

"The resolution which has been put into my hands contains an expression of feeling in reference to the numerous shipwrecks which have now for many

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\* The *President*, in some late trials with the *Vestal*, was trimmed to *four and a half* feet by the stern, and beat her. We hope to give our readers some account of these trials,—but such is the *President's* trim at present.



years occurred, that must find a place in every breast not destitute of common humanity. So appalling have been the magnitude and frequency of these among the British mercantile vessels, that the subject has now assumed a most serious and alarming aspect, and awakened an interest in the public mind which I trust will never cease to exist, until some adequate remedy be provided for the evil which we have so much reason to deplore. That such views are very far from resting on a false foundation, or originating in groundless alarm, is a point capable of being proved by an appeal to facts too notorious to be disputed or overthrown.

"What then is the real state of matters in reference to this subject? From a late respectable periodical (the *Edinburgh Review*) we are enabled to state, that, on examining Lloyd's list, it appears that from the year 1793 to 1829, the losses in the British mercantile navy only amounted, at an average of that period, to *five hundred and fifty-seven vessels a year*. But, great as this amount of loss is, has it suffered any diminution since that time? No. It has, on the other hand, most materially increased. In 1833, no fewer than eight hundred merchant ships, or a thirtieth part of the whole number of ships belonging to the British dominions, including the plantations, were either lost or driven ashore. We are informed in another popular journal (*Chambers's Edinburgh Journal*) that in two months of that year one hundred thousand tons of British shipping were reported to have been lost. Now, as there are about forty men for every one thousand tons of shipping, here were the lives of four thousand men, exclusive of passengers, put in jeopardy, of which probably one-half were lost.

"As particular allusion has been made in the resolution\* to the shipwreck of vessels conveying emigrants to America, I may just notice an authorized statement, wherein the number of vessels wrecked while sailing for Quebec in the spring of 1834, is reported to be seventeen, and the lives lost seven hundred and thirty-one.

"It ought to be observed, that this document only refers to *one* point to which emigrants are conveyed, and consequently includes a small proportion of the loss of property and life occasioned by the wreck of vessels proceeding with emigrants to the American shores. These facts irresistibly lead to the conclusion, that there is something most defective in the system of navigation which is productive of such overwhelming and accumulating calamities; and, without encroaching on the department which comes within the scope of the resolutions assigned to the succeeding speakers, I would merely ask, why is it that shipwrecks so very seldom occur among the vessels belonging to the British Government? Plainly, because they are constructed on principles, and subject to regulations, which are not applied in the mercantile navy.

"A regard to the interests of the nation, and especially the calls of humanity, imperiously requires that some scheme should be adopted for the protection of the lives and property which are so frequently periled on the waters of the great deep. When a valuable cargo of goods is wasted in the ocean, in consequence of a shipwreck, who is it that suffers by it? *Not the underwriter*: for, if the amount of compensation he receives for the risks which he runs did not leave a reversion of profit, he would immediately abandon the business in which he had embarked. *Not the merchant*: for the insurance effected on the goods covers the loss he may sustain. *Not the ship-owner*: for, with some few and honourable exceptions, he is amply protected against loss by insurance effected on his vessel. On whom, then, does the loss fall? Undoubtedly on the great body of the people; for, in every instance of a shipwreck, the value

\* See First Resolution in page 367.



of the property destroyed is added to the price of the materials consumed or used by the nation at large.

"But this consideration, though important, sinks into utter insignificance when compared with the amount of suffering which the sacrifice of so many human lives involves. To feel the force of this, it becomes necessary to transport ourselves, in so far as our imagination can carry us, to the affecting scene of a foundering vessel, on the eve of being engulfed in the ocean; to behold there the blasted hopes of the poor emigrants; the wailings and agonies of the dying, and their unexpected precipitation, without warning, into the eternal world!

"The heart-rending scenes which have been often so truly and faithfully described, together with the irreparable loss sustained by surviving friends, are sufficient to excite, in the minds of all in whom one spark of pity and benevolence still lingers, an ardent desire, and a strenuous effort, to obtain a remedy for this accumulating sum of human misery.

"I cannot but regard this as a proper object of legislative interference. I am aware of the jealousy which exists in regard to individual property, and satisfied that all enactments affecting that property ought to spring from the necessity of the case. While we accede to the general proposition, that every man has a right to do as he will with his own, it is equally undeniable, that when individuals, in dealing with their own, do, either from cupidity or any other cause, encourage a system which endangers the property or lives of their fellow-subjects, Government steps not out of its legitimate province in establishing such salutary regulations as are necessary for the security of those whom it is bound to protect.

"I trust, then, that the voice of benevolence, which was raised so nobly in this country, in defence of the Negro bondsmen, will be lifted up in favour of an alteration in the system which has proved so destructive to the property and lives of our fellow-creatures; and, that as we participate in the feeling expressed by the resolution I had the honour to move, so we shall also unite in our views of the remedy to be proposed."

MR. BALLINGALL, who moved the second resolution, observed,—“I have to remark, that those who view this question simply as a question of improvement of ship-building, take, in my opinion, a very limited and contracted view of it. I hold it to be a question affecting, to a great extent, not only the safety of human life, but even the vitality of the commercial prosperity of the country.

"We all know, that with many of our principal articles of manufacture, cotton, for instance, amongst others, we have not only to import the raw material from abroad, but, after it is manufactured, to re-export it for sale, at least so much of it as is not consumed at home, and, that if we have to compete with other nations who either are not so situated, or, if they are so situated, if they use safe instead of unsafe ships, and consequently preserve the property from destruction, they will be able to supply consumers at a cheaper rate than we can do, and will practically shut us out of the market. The same reasoning applies to all seaborne articles imported from abroad for home consumption, and to all articles exported for sale. The question then simply appears to me to be, Can safer ships be had? In answer to this question, I shall make a short extract from a report of a committee of the House of Commons, which had been appointed to report on the improvements in point of naval construction introduced about five and twenty years ago into the construction of vessels of the Royal Navy, by Sir Robert Seppings. The extract from the report is—  
‘Your committee do not pretend to describe, or appreciate with accuracy, the value of these improvements, to estimate which, to their full extent, requires



considerable professional experience; they are, however, fully convinced that the result of them will be, to effectuate in the construction of ships of war a great saving of expenditure to the public, and to secure a proportionate economy of human life, arising from their superior durability, and the great power of resistance to the elements, and the casualties incidental to nautical life, which the modern system of keeping our ships at sea at all seasons, and in all weathers, has rendered of the utmost importance. These services, (the introduction of the improvements,) although they have nothing of that brilliancy which forcibly attracts public admiration, will continue to confer a lasting benefit to the British nation long after that period when the beneficial effects of victories, however splendid, shall have passed away.' (Cheers.)

"Since the period of that report, the effects then anticipated in point of safety have been fulfilled, and even exceeded, and we now very rarely hear of a British ship-of-war being lost; and in my view the simple question is, shall we, knowing the effects of the present system on which our merchant-vessels are constructed, and how they may be remedied, and the whole system improved, go on to sacrifice not only human life, to the extent of thousands of British subjects annually in the sea, together with the property of the nation to a vast and incredible extent; or by adopting (prospectively, be it remembered, and not to operate retrospectively to the prejudice or injury of those who have capital already embarked in merchant-ships) a better system, the effects of which have been proved through a long series of years: shall we, I say, at once put a stop to this reckless destruction of life and property?

"It may be expected that I should give some general description of the present construction of merchant-vessels. To do so in technical terms would, I fear, not be generally intelligible; but every person who hears me knows that if a carpenter was putting a roof on this or any other building, and was joining only every alternate rafter or couple together at the top, that the intermediate couples (couples they would not be, but let it pass) put in, and not joined together at top, would not only not contribute any thing to the strength of the roof, but would actually weaken it by the amount of their own weight, which must be supported by the adjoining couples. Now, if we invert this method of construction, by turning it upside down, and apply it to the construction of the bottom of a merchant-ship, instead of the roof of a house, the rafters or couples representing the ribs or timbers, (technically floor-timbers and futtocks,) it exactly represents the method of construction prescribed by Lloyd's, in their latest rules for classification of merchant-shipping, as the plan on which all merchant-vessels are to be built. They prescribe a method of building of the most unsafe and dangerous kind, require a compliance with it, and determinedly refuse to give credit for a safer method: thus absolutely proscribing safety. I beg leave to refer to the instructions on the timbering of vessels of the first description of the first class, that is, of the very best description of vessel, which, according to their rules, can be built in Britain, or elsewhere. On page fourth of their rules, lying on the table, are these words,—“Every alternate set of timbers to be framed and bolted together:” thus prescribing, that every alternate set of timbers are to be put in without being framed and bolted together, which means, simply, without being joined together.

"By these rules, the casing of the outside of the timbers is the only portion of the fabric which is required to be made to keep out water; and, as to the thickness of this casing, the only one between life and death to those embarked, and on which the whole safety of the property on board also depends, I beg leave to refer to the rules for planking, which are as under, (see page 6 of the rules):—Bottom plank from bilge to keel, which covers the whole space of the bottom, to be, 'for a vessel of 150 tons 2½ inches, and for a vessel of 500 tons



3 inches thick.' Nor is this substance, totally inadequate as it is, and applied in that part of the vessel where the greatest strength is required, left whole. A portion even of this very insufficient casing, at the weakest point, and where strength is most required, is grooved out and cut away, in order to form a water-duct or channel, to admit the water to the pumps. Either this method must be adopted, or the main timbers of the vessel (those which have been described as similar to the couples supporting the roof of a house) must be cut away for that purpose, at the part where strength is most required. Either one or other of these methods must be adopted. Again, it is the opinion of well-informed practical ship-builders, and I speak in the presence of such, and if I am in error I shall be happy to be put right, that the substance which fills up between the seams of this casing, or, in other words, of the planks of the bottom, I mean the oakum which is driven by caulking into the seams of the bottom planks, is not driven beyond an inch and a half into the seam, on an average, over the whole of the bottom in a merchant-ship. But, allowing it to be driven two inches in, we have a fabric of a vessel of from fifty to five hundred, or one thousand tons burden, as the case may be, floating on a substance, and totally dependent for safety, on a material in numerous places no more than two inches thick.

"It must be evident to every one, I think, how little soever acquainted with the subject, that this is totally inadequate for safety, and it is well, and too truly expressed, that 'safety is no stipulation in ship-building.' The system is simply weighing the cost of wood in one scale, against human life and valuable merchandise in the opposite. For my own part, instead of being surprised at shipwrecks being so frequent, I am only astonished at their being so few; nor do I hear without a feeling approaching to horror the prayer every Sabbath, 'for the safety of those who go down to the sea in ships, and are exposed to the perils of the deep,' without considering the prayer, well meant and proper as it is, in the light of blasphemy to the Almighty, in so far as those perils are directly attributable to the hand of man.

"I beg leave to say one word as to sea insurance. I have been represented as advocating the total abolition of sea insurance. I advocate no such measure, although I believe those who have misrepresented me would be happy if I did, seeing it would be an idle chimera. It is only the *abuse* of sea insurance, which puts it in the power of a shipowner to insure his ship to double or treble her marketable value, (I speak guardedly, and know what I am saying,) and thereby gives him so strong an interest to withhold repairs and necessities from her, in order that she may be lost, against which I contend; and, say, or do, or think, as we like, I am sorry to say this system is practised to a great extent. The *abuse*, and not the use of sea insurance, has been carried to such an extent, that it has taken away every motive from a shipowner to get a strong and safe ship originally, because she must of necessity cost him more money than a weak and unsafe one, and he gets no credit for it; and it has rendered merchant-shipping to be the only article which I know of in Britain of which the best article does not bring the best price. By the *abuse*, and not the use, of sea insurance, safety to merchant-shipping is actually proscribed."

DAVID LANDALE, Esq. pointed out a case in illustration of the bad effects proceeding from the erroneous classification at Lloyd's. A vessel had arrived here a few weeks ago with a cargo consigned to him, and after she had come into the harbour in a calm day, the berths for vessels at the pier being all previously occupied, she was laid on the bank, and, on the water receding from her, it was found that she was unable to sustain the weight of her own cargo, when unsupported by the water, and that the seams of the bottom (those places which Mr. Ballingall had described, where there was not two inches of sub-



stance) opened, and admitted the water on the flowing of the following tide and damaged a large quantity of flax and linsped, of which her cargo was composed. And yet, strange as it might appear, this was nearly a new vessel, was built of good materials, and was classed A.1. at Lloyd's. He considered the whole system to be in error, and much against the interest, not only of the public, but of the commercial classes of the community, as every merchant who imported goods had frequently to put up with losses which, by the conditions of a policy of insurance not amounting to a sum large enough to constitute a claim against the underwriter, they of course would not pay for, and which the merchant was thus obliged to submit to. He considered this most injurious to the interests of the merchant, and more particularly, as the remedy for the evil seemed so clearly pointed out, and so cheaply accessible. The third resolution was then moved by Mr. Landale, and

Mr. R. R. DUNCAN, in seconding it, said, he disliked as well as many others applying for the interference of Government in commercial matters. Nor would he by any means concur in doing so at present, did he see how any other efficient means could be found to remedy the evil. The present plan of classification and insurance adopted by Lloyd's, voluntary however it might be regarded, is yet in itself as complete an interference with private property as could well be imagined. For, however erroneous might be its system, or the data it acted upon; however unjust the rate of qualification in which it might place your vessel, you must acquiesce in it; as, so wide are the ramifications of the society, and so universal the deference paid to its opinion, you cannot otherwise effect any insurance whatever, or recover any damage sustained, without the certificates of its agents. He supported this resolution, and called for more efficient and trust-worthy inspection, because interference had thus in reality been already made, and rules laid down, any attempt at the amendment of which had proved unavailing, or ended in the most trifling and paltry alterations, and had in no degree brought us nearer to a more sound and rational system—one by which reasonable security might be given to life and property. In every other department, various and extensive were the improvements that had been made; but merchant ship-building was the only one which seemed to retrograde instead of advance, and in which the present plan of insurance caused strength and security to vanish from our mercantile navy. He would merely give an instance which was mentioned to him by an owner the other day, to shew how hurtful it was even to the ship-owner, and how it repressed any desire in them to build good vessels. Upon congratulating one of these gentlemen the other day on the excellent state his vessel had turned out to be in, upon inspection, he stated, to my surprise, "That, Sir, is little to my profit. I inspected it most minutely while building, and would allow none but the best materials to be used, and well put together. Thus, it cost me fully £500 more than it might otherwise have done. For this I have got no return. My freights have been no better, my premium of insurance no less. My vessel was merely A.1. like others. When ten years old it was put in the second class, and now, though better than many first-class vessels, gets worse freights, and pays higher premiums. It would have been better for me, Sir, to have done like others, when I would have had £700 or £800 in my pocket, to have assisted me in getting a new one." The ship-owners, also, no doubt, see that such improvements as recommended will add considerably to the cost, while by improved vessels being constructed, the value of the old ones will be materially diminished. This, it is true, can in no way be avoided; but he had no doubt if they admitted the evil, and came manfully forward with the intent to redress it, but complaining of the hardship of their case, they would have the support of the nation, in asking for the remission of the duty on



timber used in ship-building, a boon which in any case he thought them justly entitled to, to enable them to compete on fair terms with the foreign ship-owner. Although he should have been happy to have seen the ship-owners themselves forward the work of improvement, in a field so especially their own, yet if they would not, it was high time for the public to bestir themselves. Humanity and their own interest alike required it.

The Rev. Mr. BAIN said, that while he approved of the general principle of Government's interfering as seldom and little as possible with matters of trade and commerce, he was friendly to the spirit and object of the petition. It did not, in the spirit of a narrow and selfish policy, pray for a monopoly to any class; it did not, if he understood it rightly, contemplate an interference with any insurance company whatever, except in as far as a paternal and effective protection of the lives of His Majesty's sea-going lieges might be construed. He believed there were (including passengers) 200,000 British subjects at all times afloat in merchant-vessels, and he knew of no class of men better entitled to every thing the Government and the nation could do, to promote their safety, or improve their physical and moral condition. They were our right arm of defence, and a main cause of our wealth and power, and had done more than any other class of men to render our country the wonder and envy of the world. For his part, he could not get over the fact, that in 1833 not fewer than 800 merchant-vessels were lost, involving a corresponding loss of life, while, of 160 ships of the Royal Navy that were in commission, many of them exposed to the utmost fury of the tempest, and some of them ashore on rocks, not one was lost.\* To what natural causes is this to be attributed? If it be ascribed to the greater efficiency of the crews, the reply is, and we think with complete effect, that, about twenty-five years ago, before the improved method of ship-building was introduced into His Majesty's vessels, ships of war were as readily and frequently lost as merchant-vessels now are. It was also well known, that any person might purchase a vessel, say for £1,500, and go and cover the same by an insurance of £2,000. There must be something radically wrong in a system which exposes frail humanity to such perverting and dangerous influences, and he would not trust himself to speak of its conceivable effects on the lives of his fellow-creatures. It was to be hoped, that if Government took the necessary steps, the principles of sea insurance would soon be adapted to the new state of things. The Rev. Gentleman proceeded to urge the duty of perseverance in a good cause. "Though your beginning be small," said he, "your latter end may greatly increase. All great movements are small at their commencement; they originate in one mind, but, like the motion which communicates itself to the great body of the waters, it spreads with increasing energy to the whole world of mind. The mighty movement which issued in the extinction of the slave trade and slavery, was at one time so insignificant as to be looked on with contempt, and even indifference, by the abettors of that iniquitous system; but it brought within its current the talents, philanthropy, and zeal, of a Clarkson and a Wilberforce, the latter of whom was kindly permitted to live till the sun ceased to set on a slave in the British dominions." He concluded with expressing his cordial approbation of the measure.

[We do not give the foregoing as a report of the proceedings of this meeting, for several other gentlemen expressed themselves on the occasion. We find that petitions of the same purport have since been laid before Parliament, and among them one from the masters, mates, and seamen of merchant vessels in the port of London against the practice of sending vessels to sea in an unfit state!]

\* See some remarkable instances in p. 266 of the *Mechanics' Magazine* for July, originally given in p. 154 of this Volume. No. 37.



## OBSERVATIONS ON SIR JAMES GRAHAM'S BILL FOR THE REGISTRATION AND REGULATION OF SEAMEN.

*To the Editor of the Nautical Magazine.*

SIR,—As I cannot perceive the purpose to be attained in the registration of seamen proposed by Sir James Graham, I apprehend that the part of the bill which refers to this subject will turn out ineffective. If carried effectually into operation, that is, if an exact account is to be kept of every sailor's proceedings, it will, I fear, create a very expensive establishment in London, as well as add very considerably to the duties of the collectors, &c. of the customs in every outport of Great Britain.

As to obliging owners of ships to maintain a certain number of apprentices, which this bill intended to do—say from 1 in a vessel of 80 tons, to 5 in one of 700 tons—it is both oppressive and unjust in the extreme. Supposing it to enforce what is not the owner's interest to comply with; (and if it were his interest, he would find it out, and adopt it, without any act of parliament to oblige him to do so;) to be consistent, it *should also oblige* every householder to take from 1 to 5 pauper apprentices, as domestic servants. This bill renders it compulsive upon an owner of a ship of about 500 tons to have continually belonging to her, and on board, 4 apprentices and, if he cannot shew that he has them, he is obliged, upon application of the parish authorities, to take any boy they may present who may be 13 years of age.

Laws have been made before, to this effect, and have always been evaded; but it is now intended to enforce the taking of these apprentices on the penalty of forfeiting £10 for each one deficient, *half of which penalty goes to the informer*, like others, in number 15, in this bill, and amounting altogether to £300. Here is a fine field for these gentry, the informers; and no doubt every ship will be regularly looked after by them for the requisite number of apprentices. But can it be supposed that these apprentices, who are to be thus forced afloat, will really make sailors? Attempting to force a boy to be a sailor is ridiculous, and altogether impracticable, unless he should have a taste for salt water, in which case he will not require to be forced to it. As well almost could you force a boy to be a poet, as was aptly observed lately by a writer in the Public Ledger.

This plan will doubtless clear our parishes, in the first instance, of incumbrances, but there can be as little doubt that something like the proportion of 19 out of 20 of these boys will be found in the streets in the shape of rogues and pickpockets, or worse, after the first voyage. The system adopted so universally in the merchant service, of discharging the whole of the crews of ships immediately on arrival, till nearly ready for sea again, (the harbour



work being done by lumpers,) renders the bringing up of boys to the sea, from the port of London, (and probably some other great ports,) one of the most dangerous trials of their morals that can be imagined. Let any one reflect on what must inevitably be the consequence to a parish apprentice in London, while in some vile boarding house, without either friends or occupation for perhaps two or three months, or more, during a ship's remaining in port; if he does not turn out a rogue and thief, it will be little short of a miracle.

The next objection, under the head of "registration," in this bill, is the making it compulsive in a master of a ship to keep on board the whole of a crew he may go to sea with, during the whole of the voyage until his return home. No man who knows any thing of sailors on board a merchant ship can possibly have been consulted on this extraordinary provision, which actually makes it a misdemeanour in the master, *punishable by fine and imprisonment*, if any man be wanting, on his return, from any cause whatever (death excepted), unless for each man he can produce a certificate from the authorities where he may have left the ship, to prove that such discharge (or other cause of leaving) has been sanctioned. Nay, such certificate is rendered necessary, even should the man desert; a master must have a magistrate or consul's certificate, even in that case; that the man actually did desert, and cannot be recovered; facts to which, it may be apprehended, these authorities will not very readily certify, seeing the act of parliament, which calls upon them to do so, expressly forbids the leaving seamen abroad. As men are to be discharged, so men are to be shipped, without a *consul's* privity and consent, (colonies seem here to be omitted:)—a pretty delay this will cause, if really carried into effect, but which will hardly be possible—that is to say, if the consul's consent is to be obtained for every individual shipped. As it is a difficulty created without any possible good, or even meaning in it, that I can see, so it will in practice become a mere form, and consuls will give masters a general permission, upon application that he wants hands, to ship whom he pleases.

Every one who has any practical knowledge of seamen, and what is invariably and necessarily the method pursued, both at home and abroad, by the masters of merchant ships, when sailors are wanted, knows that it is usual to make conditional agreements with two or three times the number wanted; and that it often happens, that the anchor is up before it can be ascertained which men are actually proceeding on the voyage; and yet, in the face of this, it is to be made necessary, by the bill under review, for the master to obtain the consent of the authorities on shore for each individual shipped at a foreign port. This provision of the bill is directly at variance with what



I consider to be necessary for the well-conducting of the merchant service; as I would have the authorities abroad *actually take a man out of the ship*, upon complaint of a master, and relieve him from all further obligation to keep him. It would be next to impossible, in the absence of more effectual laws for governing seamen in the merchant service, to conduct a ship on any long voyage, if the master had not the opportunity, at the first stage of it, to get rid of some dangerous characters, always found in a moderately large ship's company, and which are now generally expelled, as it were by common consent; the objectionable man, or men, easily being made to give consent to the discharge, by stoppage of grog, and other invidious marks of disapprobation, which renders the situation on board one desirable to exchange. Without this tacitly acknowledged means of ruling a crew, no merchant ship scarcely ever has been, or, *despite of any human regulations*, ever will be navigated a long voyage. To attempt the contrary, is legislating against all experience; and, so far from the present practice causing British sailors to turn pirates, by being left on shore in foreign ports, (which is altogether an unfounded assertion, as consuls must send them home on the first plea of distress,) it would add to it that of British ships, and whole crews, turning to such pursuits, from the example and influence of desperate and dangerous characters being kept on board them. Surely it might remain optional, the discharge of a seaman any where, when he consents thereto himself; to prevent parties separating, when the inclinations and interests of both prompt them to do so, really seems a provision hard to be reconciled to the dictates of common sense. If, however, this is not to be allowed, perhaps some legislative measure will provide for making good casualties abroad, from deaths, entering on board king's ships, &c. &c., the bill in question almost entirely taking away the usual sources of supply; sources from which king's ships, in time of war, have got no inconsiderable supply of their best seamen, from those who, thoughtlessly or otherwise, leave the merchant service abroad.

In respect to that part of the bill which professes to form "regulations" for seamen, it would be uncandid not to admit, that there are some good clauses in it, but, *they do not in any case go near the length they should do to ensure discipline on board merchant ships*. Clause 5 enacts the penalty of £5 for the neglect of causing the agreements with the seamen being distinctly read over to *each*. If they were read over to them when collected, it would surely be sufficient; indeed, I think they should be supposed to know the nature of the agreement, and that, if the filling up of the blanks, as to voyage and wages, were read over to them, it ought to be sufficient. This would not be worth remarking upon, but for the penalties being half payable to the informer, which



will cause masters of ships to incur perpetual trouble and fines.

Clause 6 is good, in as far as it extends the power to justices in the colonies to commit to hard labour a seaman for disobedience, or absence from the ship: but it omits providing a remedy in a *foreign* port; no such power being given to consuls, who seem throughout the bill to be forgotten, when assistance is to be rendered to the master; but not so in enforcing those laws which will cause him delay and inconvenience: thus, in a *foreign* port, a seaman may, whenever he is disposed, absent himself from the ship as much as he pleases; and, *except it be the 24 hours*—(see clause 9)—*immediately preceding the ship's sailing*, the penalty is merely forfeiture of double the amount of wages for the time absent; a forfeiture which, selecting a period of peculiarly hard duty, in loading, or any unusual exertion, in preparing for sea, &c. would be readily submitted to by *old and knowing hands*; and such time as their services were, in fact, the most valuable, would naturally be selected for a *spree on shore*: forfeiture for temporary absence from duty, of wages for double the time, is not sufficient; the absentees should also pay for whatever expense is incurred in having men in their stead.

That part of clause 9 which enacts that a deserter shall be liable to make good extra wages paid to a man in his stead; should have made the *master receiving the deserter* accountable for the wages earned in his new service, if he took a man abroad *without a certificate of his having been discharged*; the want of such certificate being considered sufficient evidence of the fact of a seaman having deserted: who ever heard of the experiment of *SUING A SAILOR* (which the act authorises a master to do) for the damages, contemplated by this clause of the act, that he may have sustained!

Clause 10 provides some securities against the frauds practised upon sailors on shore: the penalty upon harbouring them when deserters, is also good.

The periods within which wages are to be paid, as provided for by clause 11, is objectionable, in cases where there may be suspicion of plunderage; in which case, they should not be allowed to *demand* any part of their wages till the cargo is delivered: plunderage should, I think, be borne by the *crew generally*, pro rata. Robbery of stores and cargo is more common than generally imagined by those unacquainted with the merchant service; indeed, it occurs in nineteen cases out of twenty; and yet it is generally impossible to bring it home to an individual: if all contributed, the evil would cease.

Clause 13 enacts, that upon the discharge of every seaman, he shall be entitled to a certificate of his services. It would be as wise, (and, if faithfully followed up, would be the best sort of



"registration,") if this certificate should contain his character, and that masters should be enjoined, under heavy penalties, to give strictly true ones; and for which purpose there might be a printed form, containing blanks to be filled up.

The summary mode of recovering wages not exceeding £20, might, I think, as well apply to the whole amount, be it what it may; and the lien upon the ship remaining, subject to the magistrate's decision, all appeal to the Admiralty Court, (except perhaps in particular cases,) should be done away with, as unnecessary; the vexatious delay and expense of which court are intolerable.

Clause 16 enacts, very properly, that a crew shall be provided for when the ship is sold *in a foreign* port, but does not seem to apply to such event taking place in the colonies.

I am, sir, &c.

A MASTER OF A BRITISH MERCHANT SHIP.

Since the foregoing was written, Sir James Graham's bill has passed, with the following alterations.

A man is obliged to pay for a substitute when absent without leave, should the master choose to charge him with such substitute, instead of mulcting him of twice his pay.

The clause respecting desertion is worded in such a manner, as to leave doubt whether any absence is to be deemed desertion, except it be during the twenty-four hours previous to sailing.

When a ship is sold in a *foreign* port, the crew are to be paid the wages they are entitled to under *agreement*, which must, I conceive, embrace such time as would allow *the ship to return home*. If the crew are to be provided for, with situations in other British ships, and receive wages, surely they should only be paid up to that time. No provision is made in the event of sale in the colonies.

The obligation of owners to take parish apprentices is cancelled, and also the forcible binding of them by parish officers; but the clause respecting them is evidently an oversight and contradiction, as, although it expressly declares at the outset that it is advisable to oblige such persons to be bound, yet it afterwards declares it is only to be "*with their own consent*." -

I think the bill, as to its objects, (or proposed objects, for I cannot make out what they are,) highly objectionable in practice, and will cause a great deal of useless trouble, vexatious delay, and subject the masters to penalties without end. It has been suggested to me, that if I objected to make a handsome living by turning informer under it, I might do just as well by opening an office to protect masters from the efforts of these gentry, whose creditable occupation this bill will so greatly increase.

A MASTER OF A BRITISH MERCHANT SHIP.



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**PAPERS ON NAVAL ARCHITECTURE ; on the Axis of Rotation of a Ship ; and other important points.** By Commander John Pearse, R. N. Bartlett, Plymouth—Longman, London, 1835.

A series of papers, in reply to those of Mr. Henwood that have appeared in the pages of this work. We regretted much that the numerous calls for our space, and the length to which the controversy between Captain Pearse and Mr. Henwood was likely to be carried, prevented us from giving them that early attention which the importance of the subject demanded. It would be premature, at present, to state our own opinion on the subject, and we shall therefore leave Captain Pearse and Mr. Henwood to discuss the points on which they are at issue, reserving ourselves for some future occasion when their conclusions shall have been formed ; at the same time, we recommend these papers to the attention of those who are interested in the subject.

**OBSERVATIONS on the Climate, Soil, and Productions of British GUIANA, and on the Advantages of Emigrating to and Colonizing the Interior of that Country.** By John Hancock, M.D. London, Frazer, 215, Regent-street—Hatchard, Piccadilly.

This is one of the kind of works, the timely appearance of which does more good towards the civilization of the world than any other. It lays at once before the emigrant the *pros* and *cons*, the advantages and the disadvantages, of the countries which they would help to colonize ; and, by placing things before them in their true light, removes the bugbears of fancy and superstition, and at once determines the wavering mind of the settler. That Dr. Hancock is well qualified to write on Guiana, we may safely infer from his well-known experience during a residence of twenty-five years in South America, the greater part of which were passed in Guiana, in the pursuit of knowledge from nature's own treasures ; and he has fully and ably shewn the advantages of emigrating to that country. We cordially recommend it to the perusal of those whose thoughts are on foreign lands, regretting that we cannot find room to repeat here some of the worthy Doctor's information and amusing illustrations.

**THE STATE and POSITION of WESTERN AUSTRALIA, commonly called the Swan River Settlement.** By Captain F. C. Irwin, 63d regiment. Late Commandant of the Troops, and Acting Governor of the Colony. London, Simpkin and Marshall ; and Cross, Holborn.

Of precisely the same kind as the above, is Captain Irwin's work, and we know of no infantile colony, the real character of which has been so grossly misrepresented as that of Swan River. Indeed, it is this very circumstance which has induced Captain Irwin to give us the result of his experience. His object, he says, " is not to exalt its advantages above those of other colonies ; his statements are put forward neither from motives of private interest, nor to forward the views of any party or associated body whatever." We may safely



say that our author has given in the work before us all the information which a person desirous of emigrating can require; and this information "has been acquired during a residence there of from four to five years. He proceeded thither in command of the troops with the expedition that founded the colony in 1829, and, on sir James Stirling's return to England, in August, 1832, the government devolved upon him, which he continued to administer for upwards of a twelvemonth." As to particularize the numerous subjects treated on by Captain Irwin would take us beyond our limits, we must leave them to those who are in search of such information, and who, even with the nautical man, we have pleasure in referring to his work, in which they will find things placed in their real light, and the whole subject treated with a masterly hand. The author's remarks on the peculiar claims of the Australian Indians to our *Christian* care, are undeniably just, and the subject is of that kind that must at some future time command attention.

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**ESSAYS AND LETTERS** on subjects conducive to the Improvement and Extension of Inland Communication and Transport. By Thomas Grahame, Esq. Parker & Son, Parliament Street, Westminster.

We can do no more here than record the appearance of this interesting and valuable work. There is ample matter in it for discussion, and we shall take a future opportunity of laying before our readers some of the information it contains. We have always looked on the subject as one of considerable importance, and were among the first \* to draw the attention of our readers to Mr. Grahame's statements.

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**VOYAGE DOWN THE AMAZON.**—In a former part of this volume we laid before our readers some particulars relating to the voyage of Lieut. Smyth down the Amazon. The last accounts stated, that owing to various causes, he had failed in his intention of passing by the Ucayali to that river. We now learn, that he landed with his fellow-traveller, Mr. Lowe, at Falmouth on the 3d August, from the brig Creole from Para, having succeeded in passing down the Huallaga without any obstruction.

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**CAPTAIN BACK.**—Intelligence of our worthy Arctic voyager has, we are happy to say, been received, from which we are led to believe that he will be among us ere long.

It appears that his progress to the northward had been much interrupted by the ice in the lakes and rivers through which he had to pass; and that when he reached the coast, he found it much beset by ice. In the month of August last, he attained a point on the shore of the Arctic Sea due south 80 miles from the westernmost point of land of Captain James Ross, named Ross's Monument. Hence it may be inferred, either that he was on the shore of a bay where the coast takes an east and west direction, Ross's coast forming the north side of it; or that he was on the south side of a strait, which would make Ross's land an island. No doubt, we shall soon be relieved from our speculations by Captain Back himself, whose return from his difficult mission we shall hail with great satisfaction.

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**TONNAGE.**—We are glad to see that a bill founded on the report of the Committee on Tonnage given in our last volume (p 147. No. 25) is likely to

\* See Nautical Magazine, vol. i. p. 356.



pass through Parliament this session. The only alteration in it is one concerning steam-vessels. Instead of one fourth of the whole Tonnage being deducted for the engine-room, as proposed by the Committee, the contents of the engine-room in tons are to be deducted therefrom. Much has been said against the whole method here adopted, from what motive we are at a loss to say; but we will venture to say, that a more efficient measure to effect a difficult object, and at the same to prevent evasion, has not yet been brought forward in parliament, and we shall rejoice when it passes into a law. Time will shew whether it is a worthy or an unworthy one.

### COURTS MARTIAL.

A court-martial assembled on 28th July on board the Victory, of which Rear-Admiral Sir Frederick Maitland, K. C. B., was President, and Captains H. Hart, Lord Adolphus Fitz-Clarence, E. R. Williams, G. W. Mildmay, and T. Hastings, were members; with James Hoskins, Esq. Judge Advocate; to try Lieut. Stovin, late of the Algerine brig, for repeated acts of drunkenness and unofficerlike conduct.

*Sentence*:—"The court having heard and examined the evidence in support of the prosecution, and having heard what the said Lieut. George-Charles Stovin had to allege in his defence, and having heard the evidence adduced by him in support thereof, and having carefully and deliberately weighed and considered the whole, the court is of opinion that the said charges have been proved in part, particularly the most unjustifiable conduct of the said Lieut. G. C. Stovin, in allowing the command of his Majesty's brig Algerine to be taken from him by an inferior officer, on the 4th of November last, and which command the said Lieut. Stovin, notwithstanding his then ill state of health, ought to have exerted himself to the utmost to retain, and to have commanded the officers and crew of the said brig to support him in so doing to the last extremity; but, in consequence of the ill state of health in which the said Lieut. G. C. Stovin was stated to be at the time of the said proceeding, and in consequence of the former active and intrepid services rendered by the said Lieut. G. C. Stovin, and of his general good character prior to his joining his Majesty's ship Algerine, the court doth only order and adjudge that the name of the said Lieut. G. C. Stovin shall be placed at the bottom of the list of Lieutenants of the Royal Navy, and shall not be raised therefrom; and that he, the said Lieut. Stovin, shall not be again employed in active service: and he, the said Lieut. G. C. Stovin, is hereby so sentenced accordingly."

The evidences on this prosecution, Mr. Cardew, Mr. Heath, John Maynard, and Alexander Robertson, are ordered to be kept on board the Victory, as prisoners at large.

A court-martial was held on 10th Aug. on board the Victory, composed of Rear-Admiral Sir F. L. Maitland, K. C. B., (President,) Captains Sir W. H. Dillon, K. C. H., Lord Adolphus Fitz-Clarence, E. R. Williams, G. W. St. John Mildmay, and Thomas Hastings, with James Hoskins, Esq., (Judge Advocate,) to try Mr. Charles Cardew, Mate, and Mr. Michael Heath, Acting Master, both late of his Majesty's brig Algerine, the former for mutinous conduct on board the said brig, in forcibly placing and confining Lieut. Stovin, his superior officer, under arrest, and unlawfully depriving him of the command; and the latter for having connived at, and aided Mr. Cardew in the commission of the said crime.

*Sentence*:—"The court is of opinion that the charge against the said Charles Cardew hath been proved, but, in consideration of the very peculiar circum-



stances in which the said Charles Cardew was placed at the time of the commission of the said offence, and of the long period during which he hath been under arrest, as well as of his testimonials of former good character and conduct, the court doth only adjudge him to be dismissed from his Majesty's service, and to be imprisoned in the Marshalsea for the term of three calendar months.—The court is also of opinion that the above-mentioned charge against the said Michael Heath hath been proved, but, in consideration of his having acted under feelings which had been outraged by a foul report respecting him, but in which report there doth not appear to the court to be the slightest foundation; and also in consideration of the long period during which he hath been under arrest, as well as his testimonials of former good character and conduct; the court doth only adjudge him, the said Michael Heath, to be dismissed from his Majesty's service, and to be imprisoned in the Marshalsea for three calendar months: and they, the said Charles Cardew and Michael Heath, are hereby respectively so sentenced accordingly."

A Court-martial was held on 17th August on board the *Victory*, Rear-Admiral Sir Frederick L. Maitland, K.C.B., President; Captains, the Rt. Hon. Lord Adolphus Fitzclarence, G. R. Lambert, E. R. Williams, G. W. St. John Mildmay, and T. Hastings; James Hoskins, Esq., officiating Judge Advocate; to inquire into the cause and circumstances attending the loss of the schooner *Jackdaw*, on the morning of the 11th day of March last, on a reef off Old Providence, which reaches off that island some miles farther out than is laid down in the Admiralty Charts, and to try Lieut. Edward Burnett, the Commander, officers, and crew, for their conduct upon that occasion. "The Court was of opinion, that the loss of his Majesty's said late schooner *Jackdaw* was occasioned in consequence of the reef on which the said schooner was wrecked off Old Providence, extending several miles farther than is laid down in the Admiralty Charts; and also in consequence of a supposed current setting to the South West. The Court was, however, of opinion that the said Lieut. Edward Burnett was incautious in carrying so much sail at night, in hazy weather, and when he had nearly run the distance he intended; and the Court did therefore admonish the said Lieut. Edward Burnett to be more cautious in future. The Court was further of opinion, that after the said schooner had struck on the reef, every exertion was made by the said Lieut. Edward Burnett, his officers and ship's company, in attempting to save the said schooner, whilst the hope of doing so remained; and also afterwards in saving the crew, with the provisions and stores of the said schooner; and the Court did therefore acquit the officers and ship's company of his Majesty's late schooner *Jackdaw*, except the said Lieut. Edward Burnett; who was thereby admonished to be more careful in future."

A Court-martial was also held on board the *Victory* on the same day, composed of the same officers, to inquire into the cause and circumstances attending the loss of his Majesty's late schooner *Firefly*, off Belize, on the 27th February last, and to try Lieut. John Julius Mc Donnell, the commander of the said schooner, his surviving officers and ship's company, for their conduct on that occasion. "The Court is of opinion that the loss of his Majesty's schooner *Firefly* was occasioned by the said schooner having been drifted on the reef called the Northern Triangles by a strong N. W. current, the winds having been light and variable, with occasional calms; and it appearing to the Court, that from the observations taken at noon, and from the longitude deduced from the evening sights for the chronometer, that there was every reason to suppose that the said schooner was 24 miles from the before-mentioned reef at 4 p. m.; the



Court doth therefore fully acquit the said John Julius Mc Donnell, the surviving officers and ship's company, of all blame respecting the loss of the said schooner *Firefly*, and they are hereby fully acquitted accordingly.—The Court, however, can but express its surprise and regret that a British officer and British seamen should have left their commanding officer, or any human being, exposed on the shore, in so helpless and melancholy a state as Lieut. Mc Donnell was, when he was abandoned by Mr. Malcolin, the Clerk in charge, and the men who accompanied him; the Court is further of opinion, that the conduct of Mr. Nops, the Master's Assistant, was meritorious and highly praiseworthy in proceeding to Belize, and by that means obtaining assistance, and saving the remainder of the ship's company, who had been left on the sand-beach and wreck, and subsequently proceeding in search of Lieut. Mc Donnell, and rescuing him from his perilous situation."

#### HALLEY'S COMET.

ABOUT the year 1700, Halley, afterwards Savilian professor at Oxford, and astronomer royal, having in some degree simplified the necessary process, undertook to count the orbits of all the comets upon which observations sufficiently definite had been made. Out of more than four hundred such bodies, mentioned by ancient and modern writers, (that is, 415 up to the year 1665 inclusive,) there were not more than twenty-four on which the experiment could be tried.

Halley calculated, for every one of these, the longitude of its ascending node, the inclination of its orbit, the longitude of its perihelion, its nearest distance to the sun, the time of its being in the perihelion, the distance from its perihelion to its node, and the character of its motion, whether direct or retrograde. Having formed his table, he immediately found three comets, the elements of which were very much alike: namely, those of 1531, 1607, and 1682, as follows:—

A	B	C	D	E	F	G	H
1531.	49° 25'	17° 56'	301° 39'	56700	Aug. 24	107° 46'	Retrograde.
1607.	50 21	17 2	302 16	58680	Oct. 16	108 5	"
1682.	51 16	17 56	302 52	58328	Sept. 4	108 23	"

A, year of the comet.

B, longitude of ascending node.

C, inclination of the orbit.

D, longitude of the perihelion.

E, perihelion distance from the sun, that of the earth being 100,000.

F, time of the comet arriving at its perihelion distance.

G, distance from perihelion to ascending node.

H, direction of the comet's motion.

The preceding labour made it, therefore, not difficult to conjecture that these three appearances must have been one and the same comet. With regard to the time of revolution, from August 24, 1531, to September 16, 1607, there are 76 years and 53 days;\* while, from October 16, 1607, to September 4, 1682, there are 75 years all but 42 days; about 15 months' difference.

The following elements of the orbit were deduced from different sets of observations: they furnish the proof that the comet seen in 1759 was really the one observed by Halley; for we need hardly say, that the mere circumstance, of a comet having been seen about the time, and even near the place, which was expected, would only have been a remarkable coincidence. The letters stand for the same as above.

\* In the list of the French Encyclopædia, article *Comète*, the perihelion times of the comets of 1607 and 1682, are given, October 26, and September 14. The same mistake, probably from the same source, has crept into Bailly's *History of Astronomy*.



A	B	C	D	E	F	G	H
1759	55° 49'	17° 39'	303° 16'	58349	March 12,	13 41	Retrograde.
—	53 46	17 40	303 8	58490	„	12, 13 59	„
—	53 49	17 35	303 16	58360	„	12, 12 57	„

The first of these orbits was given by La Caille, the second by Laflamme, the third by Maraldi. Their agreement with the first is sufficiently obvious, as also the effect of perturbation upon the longitudes of the node and perihelion. The only remarkable alteration in the comet, was its decrease in brilliancy. Cassini, in 1682, calls it as round and clear as Jupiter; Messier could only see it faintly in rather powerful reflecting telescopes: and though Palitzsch, under very favourable circumstances, and having, we must presume, a remarkably good sight, detected it with the naked eye, we do not read that any one else did the same. In 1456 its tail was sixty degrees in length; in 1607 it was only seven degrees, but brilliant. The same fact—namely, the diminution of light in successive revolutions—has been observed with regard to the other periodic comets; and affords reasonable ground for conjecture, that in time they must disappear altogether. Whether this will take place next time, now remains to be seen; but, in any case, strong telescopes will, most probably, be required.—*From the Companion to the British Almanac.*

We have the pleasure of laying before our readers the following letter from Sir James South, announcing the discovery of the comet.

*To the Editor of the Nautical Magazine.*

Observatory, Kensington, Monday Aug. 24, 1835.

SIR,—Having found Halley's comet yesterday morning, and having observed it again this morning, I forward to you the results of the observations:—

Saturday Aug. 22. (At 1 hour 11 minutes sidereal time.) Right ascension, about 5 hours 42 minutes and 31 seconds; declination about 23 degrees 43 minutes north.

Sunday Aug. 23. (At 23 hours 55 minutes and 47 seconds sidereal time.) Right ascension, about 5 hours 43 minutes and 18 seconds; declination, 23 degrees 49 minutes and 43 seconds.

It is extremely faint, nearly round, and perhaps about two minutes in diameter.

I am, Sir, your obedient servant,

J. SOUTH.

#### ISOTHERMAL LINES.

*To the Editor of the Nautical Magazine.*

SIR—Baron de Humboldt's paper on Isothermal Lines presents many curious facts which have not been hitherto satisfactorily explained, partly for want of a more extensive series of observations; and partly, perhaps, from a cause not hitherto suspected, i. e. the nature of the solar rays. It would be interesting to science, therefore, to multiply observations in given points, and in the same parallels of latitude, in the two hemispheres; but, above all, on the *solstitial temperatures of all known places on the tropics of Cancer and Capricorn*. If I am not greatly mistaken, the comparison of the maxima and minima of temperature on these two parallels, will lead to a highly curious and important discovery. It is a subject worthy the attention of the readers of the Nautical Magazine, which it is enough to hint, to excite their zeal in the cause of science.

I have the honour to be, &c.

Chelsea, 24th July, 1835.

J. BYERLEY.



## SOUTHAMPTON RIVER.

*To the Editor of the Nautical Magazine.*

SIR,—When the Parliament has decided that a rail-road from London to Southampton is of national importance, from the noble anchorage the port possesses, and its peculiar local situation to the first naval port of the kingdom, as well as to the first anchorage \* of shipping for protection in war; since, by the application of steam, the Downs can longer be considered a safe place of rendezvous for large fleets of merchant ships, as *hitherto*;—is it not strange that no accurate survey of Southampton water, and its branches within it, should be extant, giving with it the rise, fall, and lay at spring and neap tides. As the word “lay” may not be understood by some, I beg leave to explain, that it is almost peculiar to this port. From its local situation, the ebb coming from the eastward round the Owers before it passes out of the Needles’ passage, fills this river, as it were, a second time, and keeps it high water for nearly three hours ere it begins to fall by the shore, which at spring it does as much as seven feet the first hour, perpendicular. This lay, therefore, gives this port a considerable advantage for commercial purposes over others. There is not a rock or shoal in it, or any branch of it which would injure a loaded ship by her grounding on it; and, by subscription, the corporation of the borough have established a good light on Calshot Castle, thereby making it almost as easy to enter the river, by night as by day—but there are some banks grown up which ought to be removed, one across the Itchin river, and another from the, outer-bar buoy of the Itchin to the westward, in Dibden Bay, which should be noted, if not cleared away. The channel is laid down as having one fathom low water in the old charts between the Gimp bank. The bed of the river off the town of Southampton should be cleared, as, since in deepening the water off the new pier two years since, and depositing the mud taken up in that channel, the tide, which came down from Redbridge to Cracknore point, is now diverted from its course into mid channel, the consequence is the filling up of the river, by an unusual deposit of mud on the west shore to almost an alarming extent. The fleet certainly lay off thirty or fifty feet further at low water, from High Ward than it did when the Gimp channel was open, and of course is every day on the west mud getting worse by the river being so much narrowed. I know not whose business it is to attend to these matters; but some one, in justice to those who have subscribed to the projection of the rail-road, should see to it, in order that those who expect to find deep water and a wide station for their ships sent hither to discharge, be not disappointed by finding it the reverse.

I am, Sir, W.W.W.

P. S.—The steamers do great harm to the fishing, and assist in filling the river up by throwing out their ashes and cinders.

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RATES OF SAILING—THE VERNON AND OTHERS.

*Copy of a Letter from Vice-Admiral Sir Josias Rowley to the Right Hon. George Robert Dawson;—With 10 Enclosures.*

Caledonia, in Malta Harbour, 2 April, 1835.

SIR,—With reference to Mr. Barrow’s letter of the 24th of November last, No. 143, conveying to me the directions of the Lords Commissioners of the Admiralty to take the Vernon under my command, and signifying their Lordships’ further desire that I embrace every opportunity to cause that vessel to be tried as to her rate of sailing, and other properties as a ship of war, under every

\* Within the Isle of Wight.



circumstance of weather, with the Portland and any other fast-sailing ship, and directing me to report particularly the result of these trials; I have to acquaint you, for their Lordships' information, that at 8 h. 55 m. A. M. on the 9th ultimo, I directed the Vernon, Portland, and Columbine to try their rates of sailing accordingly, and ordered the squadron generally to remark particularly the result, and to report upon it. It was blowing a fresh breeze, and, after a trial of three hours' duration, I observed that the Vernon had so far weathered on the Portland as to claim a decided superiority over that ship when close hauled. The Portland at noon sprung her fore-topmast. The Columbine, during this trial, fell considerably to leeward.

On the 13th, at 9 h. 20 m. A. M., I ordered the Thunderer, Vernon, Portland, and Endymion to make a comparative trial without risking their spars, directing the squadron generally to observe and report, as on the 9th. The wind was blowing fresh, with squalls at times. The result of this day's experiment, which lasted about four hours, also proved the superior capabilities of the Vernon when going large or before the wind; although Captain M'Kerlie is of opinion that it is her worst point of sailing.

On the succeeding day a trial took place between the four ships named on the 13th; but on account of the wind being light and not steady, no satisfactory opinion could be formed of the result.

The trial on the 15th further established the Vernon's superiority in fore-reaching the Portland and Endymion, during five hour's sailing, from 10 to 12 miles, leaving the Thunderer farther astern.

On the two subsequent trials, the 16th and 18th, the Vernon still supported the high character which the result of these several experiments had gained for her; and I am of opinion that she is, in all points, a very superior vessel.

I transmit, for their Lordships' further information, the reports hereon made to me by the captains of the squadron.

I am, &c.

(Signed)

JOSIAS ROWLEY.

*Copy of a Letter from Captain Price, of His Majesty's Ship Portland, to Vice-Admiral Sir Josias Rowley.*

H. M. Ship Portland, Salamis, 10 March, 1835.

SIR,—I have the honour to acquaint you that yesterday, in compliance with your signal "to try rate of sailing with Vernon and Columbine," that at 9h. 25 m. A. M., wind west-south-west, course about north-west, Portland made sail on larboard tack, under courses single-reefed topsails, topgallant-sails, jib, inner jib, and spanker; the Vernon, with corresponding sails, then bore north-by-west  $\frac{1}{2}$  west to leeward about two cables' length; Columbine bore north  $\frac{1}{4}$  east on the lee bow, distant about 1.  $\frac{1}{2}$  mile; at 10 h. 40 m. the Vernon seemed to ly up to windward nearly a point more than Portland, and gradually fore-reached on us until she bore west-by-north  $\frac{1}{4}$  of a mile dead to windward on weather bow of Portland, Columbine then bearing north  $\frac{1}{4}$  east  $1\frac{1}{2}$  mile on our lee beam; at 10 h. 50 m. Vernon bore west-by-south to windward; Columbine still on lee beam; at 11 h., Vernon bore due west, Columbine on Portland's lee beam nearly 2 miles; observed her tack and stand for the south point of St. George's Island; 11 h. 30 m. Vernon and Portland tacked; Vernon then due west on weather bow, distant about  $\frac{1}{4}$  of a mile; Columbine bore south-east  $\frac{1}{4}$  east to leeward; Portland carried away her jib haulyard, and took in her mizen topgallant-sail, set the jib; at 11 h. 50 m. Vernon bore west-south-west  $\frac{1}{4}$  west on Portland's weather quarter about 1 mile; at 12 h., the carpenter on the cap reported the fore-topmast split and open from the heel to the cap; lowered the fore-topmast; hauled down jib, and wore; Vernon kept



on, and rounded St. George's Island ; Columbine not seen, from being the other side of the island.

Portland's rate of sailing during trial was from 9 to 9—2 and 10 knots in the squalls ; her heel over (per pendulum) was 7° to 10°, and 11° and 12° in squalls ; Vernon's heel over (per signal) was 6°, and Columbine 8°.

On running for Salamis at 4 h. 50 m. p. m., Portland had all reefs out, courses, topsails, topgallant-sails, royals, all jibs, topgallant-staysails and spanker set ; Vernon bore north-east-by-north  $\frac{1}{2}$  north to leeward, with single-reefed topsails, topgallant-sails, royals, topgallant-studding-sails, all jibs, and spanker ; Columbine bore south-east-by-south astern, with fore-yard carried away ; at 5 h. 3 m. Vernon bore east, and at 6 h. 50 m. Portland shortened sail and reefed topsails ; Vernon then bore north right a-head, carrying on courses, topsails, topgallant-sails, jib, and spanker.

I further beg to remark, that on leaving Vourla the Portland's draught of water was forward, 18 ft. 9 in. ; aft, 19 ft. 10 in. ; and on removing six guns from a medium of 60 feet abaft to 50 feet before the centre of ship's motion ; her draught of water was forward, 18 ft. 10 in. ; aft, 19 ft., which I consider to be her best trim for sailing.

I have, &c.

(Signed)

D. PRICE, Captain.

LA PEYROUSE.—Accounts are stated, in the French papers, to have been received from our enterprising countryman, Capt. Dillon, who is again in the southern seas, that he has been successful in discovering further traces of the wreck and fate of the unfortunate *La Peyrouse*.—*Hunts Tel.*

PRESERVATION OF A VESSEL BY A FISH.—The Holyhead correspondent of Lloyd's Room (Liverpool) mentions the following curious circumstance in his Wednesday's letter :—"The brig *Endeavour*, Gregory, from Whitehaven to Drogheda, put in on the morning of the 8th inst. in a very leaky state, having been out in the heavy gale on the 7th. Being hauled up the harbour, her bottom was examined this morning, when a small fish, called the 'sea pin,' five inches in length, was found pressed in one of the seams under her bottom, and alive. The fish was certainly the means of saving the vessel, and the lives of all on board. The fish is preserved."—*Portsmouth Herald*.

Kingston, Feb. 14.—The Mayor, Aldermen, and Commonalty of this city, on Tuesday last (10th) presented Captain Evans of His Majesty's ship *Rhadamanthus*, with a most splendid Loo Table, made of Jamaica woods, in testimony of the respect entertained for him by the mercantile community, as well as their gratitude for his kindness in surveying the harbour of Kingston, and placing buoys between it and Port Royal so judiciously as to prevent the possibility of accident occurring to any vessel hereafter going between the two places.

The pedestal of the table is made of the rich Yacca wood of this island—the slab is of the same, but inlaid with one hundred pieces of others, fancifully arranged. This piece of furniture may be equalled, but it can never be surpassed, in beauty and design ; it is one which we are assured Captain Evans will prize, from the respect he entertains for those from whom he received it ; and though last, not least, since it will bring to his recollection his friends in Jamaica, who ever have held, and we are convinced ever will hold, his character in esteem and deserved respect. Again we say, he leaves our shores with the good wishes of all.—*Com. Advertiser*.



## Nabal Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—AUGUST 21ST, 1835.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, VICTORY, 104.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, SAN JOSEF, 110.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, OCEAN, 8.0

ASTREA—Falmouth.

CAMELEON, 10—Portsmouth station.

EXCELLENT, late BOYNE—Portsmouth, for the practice of naval gunnery.

JUPITER, *en flûte*—Woolwich, said to convey the Governor-General, Lord Auckland, to Calcutta.

MAGICIENNE, 24—Spithead 11th Aug. OCEAN, 80—Sheerness.

PYLADES, 18—Plymouth, fitting, said for coast of Africa.

PIKE, 12—Was spoken with on the 23d July off Cape Finisterre, by H.M. steamer African.

PORTSMOUTH, *Yacht*—Portsmouth.

PRINCE REGENT *Yacht*—Deptford.

ROYAL GEORGE *Yacht*—Portsmouth.

ROYAL SOVEREIGN *Yacht*—Pembroke.

RUSSELL, 74—8th Aug. arrived at Spithead. This ship has evinced an alacrity in her equipment, which will remind the service of former exertions. Twenty days prior to her arrival she had not a seaman entered, yet at Spithead she was obliged to discharge men, having more than her complement.

With this entering of men, and of officers also, she has taken on board her guns and stores, completed her rigging, and quitted the Nore in ten days from the first entry of seamen: a proof of what can be done with zeal and goodwill united. On weighing from the Downs, on Saturday morning last, a melancholy accident occurred. Whilst fishing the anchor, the hook of the block which led the fish-fall along the gangway broke; the block and fall consequently flying upwards, killed three men on the instant, and another has since died, seriously hurt six others, and slightly wounded eight or nine more. The wounded men have been removed to Haslar Hospital.—*Hants. Tel.*

SAN JOSEF, 110—Hamoaze.

SEAFLOWER, *Cutter*, 4—Sheerness station.

SPEEDY, *Cutter*—Portsmouth station.

VICTORY, 104—Portsmouth.

WANDERER, 16—Chatham, fitting, said for East India station.

WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CASTOR, 36—9th July at St. Andero.

CLIO, 16—9th July at St. Andero.

HASTINGS, 74—In the Tagus 3d Aug.

NIMROD, 20—10th July north coast of Spain.

PEARL, 20—6th July arrived at Spithead, and sailed for north coast of Spain.

RINGDOVE, 16—July at Bilboa.

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ROYALIST, 10—3d Aug. in the Tagus.

SARACEN, 10—July at Bilboa.

STAG, 46—5th July left Lisbon for Santander.

TWEED, 20—In the Tagus 5th July. ;

VIPER, 6—3d Aug. in the Tagus.

WATERWITCH, 10—3d Aug. in the Tagus.

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Accounts are received from Lisbon to the 3d Aug. by which we learn that the Stag, 46, Tweed, 20, Clio, 16, and the Pike schooner, had sailed on the previous day with sealed orders—their ultimate destination being supposed to be the South Coast of Spain, where it is rumoured this force would be strengthened in that quarter by some of the ships of the Mediterranean squadron.—*Hants. Tel.*

## MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St.V.—20th June at Malta.

BARHAM, 50—21st July arrived at Spithead. Lord Durham and suite embarked at East Cowes on board the Barham, at half-past ten on 1st Aug. under a salute from the battery of the Royal Yacht Squadron, and the ship with her yards manned. She immediately got under way, and proceeded to Constantinople. She is ordered to remain on the Mediterranean station.—*Hants. Advertiser.*

BLAZER, St.V.—12th April, arrived at Malta.

CALEDONIA, 120—16th June at Malta.

CANOPUS, 84—2d June at Piræus.

CEYLON, 2—Malta.

CHILDERS, 16—2d June at Piræus.

COLUMBINE, 18—16th June Malta; 22d sailed.

EDINBURGH, 74—2d June at Piræus.

ENDYMION, 50—16th June at Malta; 29th sailed for Prevesa.

FAVORITE, 18—18th June arrived at Malta from Tripoli.

JASEUR, 18—15th June at Gibraltar. The Jaseur has stopped and detained at Gibraltar, on suspicion of her being fitted out for a slave-ship, the Cazador, a fine Spanish brig, with a crew of sixty

men. She was ready for an immediate start, having her sails stopped with rope-yarns, and her cable (iron) unshackled, ready to slip. The officer of the Jaseur immediately ordered her crew below, planted his sentinels, and in a few moments had her in complete possession. On search, it was ascertained beyond doubt, that she was so intended, the shackles being found on board, as well as an extraordinary proportion of powder, arms, and water; the slave-deck, and in fact every thing specified in the act of parliament as necessary for her condemnation.—*Hants Tel.*

MALABAR, 74—2d June at Piræus.

MEDEA, 6—2d June at Piræus.

ORESTES, 18—30th June at Cephalonia.

PORTLAND, 52—2d June at Piræus.

REVENGE, 78—2d June at Piræus.

SAPPHIRE, 28—27th June arrived at Malta; 28th sailed for Prevesa.

SCOUT, 18—16th June expected at Malta, previous to return home.

THUNDERER, 84—2d June at Piræus.

TRIBUNE, 24—Malta.

TYNE, 28—14th June at Gibraltar.

VERNON, 50—2d June at Piræus.

VOLAGE, 28—Jan. at Constantinople, 7th Feb.

## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—Feb. off Sierra Leone. Expected home.

BRITOMART, 10—1st April off Prince's Island.

BUZZARD, 10—19th April at Sierra Leone.

CHARYBDIS, 3—Sierra Leone.

CURLEW—28th Feb. at Sierra Leone.

FAIR ROSAMOND, *Schooner*—Feb. at Ascension.

FORESTER—19th April at Sierra Leone.

GRIFFON, 3—Feb. in the Gambia.

LYNX, 10—28th Feb. at Prince's Island. Expected at Sierra Leone.

PELICAN—11th April arrived in the Gambia; 13th sailed.

PELORUS, 18—28th Feb. at Prince's Island. Expected home.

ROLLA, 10—21st April arrived in the Gambia; 24th sailed.

THALIA, 46—11th April in Simon's Bay.

TRINCULO, 18—2d May left St. Helena for Ascension.



## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ALGERINE, 10—20th Feb. arrived at Bombay; 12th March sailed for Trincomalee.

ALLIGATOR, 28—27th November left Sydney for Madras. Arrived at Spithead 15th Aug. from the East India station. She left the Cape on the 2d, St. Helena the 18th, and Ascension the 24th of June. Moved into the harbour.

ANDROMACHE, 28 — 17th March at Bombay.

HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th Feb. left Sydney for Twofold Bay.

RALEIGH, 16—22d Feb. off Point de Galle, Ceylon.

RATTLESNAKE, 28—18th May left Rio for Cape and East Indies.

ROSE, 18—8th Feb. left Bombay for Singapore.

VICTOR, 18—Left Cowes Roads for the East Indies, 30th March arrived at Madeira, 3d April sailed.

WINCHESTER, 52 — 17th March at Bombay.

WOLF, 18—5th Feb. sailed from Algoa Bay for India.

ZEBRA, 16—12th March sailed for Trincomalee.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*, PRESIDENT, 52.

BELVIDERA, 42—16th July off St. Paul's, Gulf St. Lawrence.

CHAMPION, 18—11th June sailed for the West Indies.

COLUMBIA, St.V.—May at Barbados.

COMUS, 18—21st June left Barbados for Jamaica.

CRUIZER, 18—7th May at Barbados.

DEE, St.V. 4—29th April at Jamaica.

DISPATCH, 18—21st June at Para.

DROMEDARY—Bermuda.

FLAMER, St.V.—Running with mails between Jamaica and Barbados.

FLY, 10—17th May at Port Royal; about to sail for Mexico and England. Sailed 22d May.

FORTE, 44—4th July arrived at Halifax from Jamaica and Havana. The Forte had been to Vera Cruz, where, we are sorry to observe, a great proportion of the ship's company had been attacked by the yellow fever, several cases terminating fatally—the carpenter, Mr. A.C. White, being among the victims. The Commodore immediately proceeded to Halifax, for the benefit of the survivors; and, by accounts to the 16th ult., we learn that the number of cases, which were daily lessening, had been reduced to fifty, there being a plentiful supply of every thing necessary to assist in the recovery of health.

GANNET, 18 — 29th April at Port Royal.

LARNE, 18—3d June sailed from Jamaica.

MAGNIFICENT, 4—Port Royal.

PICKLE, 5—24th Feb. arrived at Jamaica from Maracaybo.

PINCHER, 5—Tender to flag-ship, 14th Feb. at Port-au-Prince.

PIQUE, 36—30th July sailed for Quebec, with the commissioners named in our last. The Pique will return to England immediately with Lieut.-Gen. Lord Aylmer, appointed to the command of the Forces in Ireland.—*Hants. Telegraph.*

PRESIDENT, 52 — Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., July at Halifax.

RACEHORSE, 18—1st June at Para.

RACER, 16—May at Barbados; 11th June left St. John's, Newfoundland, for Fortune Bay.

RAINBOW, 28—6th June arrived at Jamaica.

SAVAGE, 10—May at St. Thomas I.; 24th May arrived at Antigua.

SCYLLA, 18—2d June arr. at Barbados.

SERPENT, 16—29th April at Jamaica.

SKIPJACK, 5—30th Nov. Port Royal.

SPITFIRE, St.V.—carrying mails in the West Indies.

VESTAL, 26—Arrived at Bermuda on the 26th May.

WASP, 18—28th April left Jamaica for Carthage.



## SOUTH AMERICAN STATION.

- Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, DUBLIN, 50. 2d June.
- ACTÆON, 28—4th May at Rio Janeiro and sailed for River Plata.
- BASILISK—4th May left Plymouth for South America.
- BLONDE, 46—2d Feb. left Valparaíso.
- CHALLENGER, 28—25th March at Rio Janeiro. To return again shortly to the Pacific.
- COCKATRICE, 6—Running between Rio Janeiro and Buenos Ayres.
- CONWAY, 25—To leave the Pacific for Rio about July. 8th April at San Blas, Mexico.
- DUBLIN, 50.
- HORNET, 6—Running between Monte Video and Rio Janeiro.
- NORTH STAR, 28—2d May at Pernambuco; to sail 4th for Bahia and Rio.
- RAPID, 10—26th May arr. at Rio from Falkland Islands.
- ROVER, 16—4th May at Rio Janeiro and sailed for Pernambuco.
- SATELLITE, 18—Ordered home; 26th October arrived at Callao from Valparaíso.
- SPARROWHAWK, 18—10th May at Valparaíso.
- SPARTIATE, 76—30th May at Rio. 17th Aug. arr. at Spithead from Rio; 21st sailed for Plymouth, to pay off.
- TALBOT, 28—24th May left the Cape for Rio. Arrived 22d June.

## TROOP SHIPS.

- ATHOL, *Troop Ship*—Arrived 7th Aug. direct from Quebec, which place she left July 9. She conveyed recruits to Halifax and Quebec, for the different regiments, as well as two companies of Royal Artillery, to relieve two others, which she has brought home, commanded by Major Brereton and Capt. Whitley. The Athol has brought home the commanding officers, and other officers, and crews of the Jackdaw and Firefly schooners, one of which was lost in Honduras Bay, and the other near the Bahamas; the crews of which were conveyed to Bermuda, and from thence to Halifax, in the President frigate, then transhipped into the Athol, and carried to Quebec, and in her conveyed to Spithead, to be tried by court-martial for the loss of their respective vessels. 9th Aug. sailed for Woolwich.
- BUFFALO, *Store Ship*—Portsmouth.
- JUPITER, *Troop Ship*—At Woolwich, fitting.
- ROMNEY, *Troop Ship*—21st May spoken in lat. 46° N. long. 9° W.

## STEAM VESSELS.

- AFRICAN—See Packets.
- ALBAN—See Mediterranean Station.
- BLAZER—Running with mails between Malta and Alexandria.
- COLUMBIA—See West Indies.
- CARRON—Surveying.
- COMET—Woolwich.
- CONFIANCE, 2—Running with mails between Malta and Corfu.
- DEE, 4—See North American Station.
- FIREBRAND—Woolwich.
- FIREFLY—See Packets.
- FLAMER, 6—See West India Station.
- HERMES—Sailed from Portsmouth 16th Aug. for Woolwich, in charge of Mr. Hepburn, the Assistant Master Attendant, to have her engines fitted.
- LIGHTNING—Arrived on 8th Aug. from Woolwich, and left on the following day, having completed her coals, and taken in stores for the ships in the Tagus. Mr. Michen, Consul, came and departed in her.—*Devon. Tcl.*
- MEDEA, 6—See Mediterranean Station.
- MESSENGER, 1—Channel service.
- METEOR—Was paid advance of wages on 11th Aug. and started for the West Indies, having on board Wm. Pitt Adams, Esq., Secretary of Legation at Bogota, and about eighteen supernumerary boys for the President.
- PHENIX—Woolwich. Ordinary.
- PLUTO—Mediterranean.
- RHADAMANTHUS—Woolwich. Ordinary.
- SALAMANDER—Woolwich. Ordinary.
- SPITFIRE, 6—See West India Station.
- TARTARUS—Lieut. James sailed from Woolwich 3d July, with the Hon. Henry Ellis, Ambassador to Persia, and suite on board, for Malta.



## SURVEYING VESSELS AT HOME AND ABROAD.

**ÆTNA**, 6—14th June at Gibraltar.  
**BEACON**—Archipelago.  
**BEAGLE**, 10—Cts. of Patagonia & Chili.  
**CARRON**, St. V., Com. E. Belcher, surveying St. George's Channel.  
**FAIRY**, 10—North Sea.  
**GULNARE**, Hired Schooner—Gulf of St. Lawrence.  
**INVESTIGATOR**, 16—Orkney Islands.  
**MASTIFF**, 6—Archipelago.  
**RAVEN**, Cutter—With the *Ætina*.  
**THUNDER**—3d March sailed for Honduras.

## PAID OFF.

**CURACOA**, 26—At Chatham, 29th July.  
**IMOGENE**, 18—At Plymouth, 3d Aug.  
**MELVILLE**, 74—At Portsmouth, 22d July.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.  
 Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.  
 Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.  
 Lieutenant C. G. Robinson.—North Coast of Wales.

## COMMISSIONED.

**HARRIER**, 18—Portsmouth, Commander W. H. H. Carew.  
**PYLADES**, 18—Plymouth, Commander W. L. Castle.  
**WANDERER**, 16—Chatham.

The **SULPHUR**, with the Starling cutter as her tender, is ordered to be fitted for the surveying service, to be commanded by Captain Beechey.—*Hants. Tel.*

## APPOINTMENTS.

## PROMOTIONS.

**COMMANDERS**—Hon. J. Denman, T. M. Currie, M. Dixon, H. W. Crawford, J. Bowen, Lord C. Paget.  
**LIEUTENANTS**—W. R. Mends, W. R. Lord, E. Fanshawe, P. Rainier, H. B. Montresor.  
**SURGEONS**—J. M'Kittrick, J. J. Lancaster.

## APPOINTMENTS.

**ALBAN**, St. V.—Lieut. C. T. Hill.  
**BALDASTER**, Convict S.—Surgeon, J. Steret.  
**BERMUDA ISLAND**—Governor, Capt. J. W. Dundas.  
**BUZZARD**, 10—Clerk, J. Siddell.  
**CLEOPATRA**, 26—Capt. Hon. G. Grey;  
 Lieuts. T. Liardet, J. Robilliard.  
**CLIO**, 16—Master act. J. Webb; Purser, J. Prance.  
**COAST GUARD**—Commanders, J. Gordon, J. C. Fitzgerald. Lieutenants, W. Boyce, at Felpham; J. H. Weller, W. Crispin, C. W. Ross, R. Taylor.  
**COLUMBINE**, 18—Purser, T. T. Jeffery.  
**EXCELLENT**, 76—Mate, C. Byam.  
**HARRIER**, 18—W. H. H. Carew.  
**JUPITER**, *en flute*—Capt. Hon. F. W. Grey.  
**LAPWING**, Packet—Mate, W. C. Forsight.  
**MAGICIENNE**, 24—Assist. Surg. J.

Derryman; Clerk, W. Stanway; Schoolmaster, E. Tibbett.  
**MAGISTRATES**, Stipendiary—*Trinidad*, Lieut. G. Spong.  
**METEOR**, St. V.—Lieut. W. Smith; Mast. Assist. F. W. B. Baker.  
**NAUTILUS**, 10—Mate, R. Ludlow.  
**ORDINARY**—*Sheerness*, Lieut. C. Hall; Purser, J. Vallack. *Chatham*, Purser, W. Marsden.  
**OCEAN**, 80—Chaplain, Rev. E. Pettman.  
**PYLADES**, 18—Com. W. L. Castle; Lieuts. M. Thomas, J. M. Langtry; Mast. W. R. Mattacott; Surg. P. Toms; Purser, R. Singer; Assist. Surg. J. A. Miller.  
**RUSSEL**, 74—Com. A. Luckraft; Lieuts. R. Innes, J. Evans (b), A. Murray (b), T. Harvey; Surg. E. F. Bromley; Purser, J. Bowman; Assist. Surg. J. Douglas, M.D., A. B. Curnor; Mate, W. C. Metcalfe; Sec. Mast. R. S. Godden; Mids. S. T. Dickens, A. Cooper, J. C. Aphorpe, A. F. Kynaston, E. Hemstead, W. H. Payne, Lord A. Beauclerk; Clerks, A. Nash, P. Angellely.  
**TALBOT**, 28—Sec. Mast. F. W. Paul.  
**VOLAGE**, 28—Lieut. Mar. J. C. C. Moore.  
**WANDERER**, 16—Com. T. Dilke; Lieut. W. Renwick; Surgeon, Baird; Purser, J. S. Pope.  
**ZEBRA**, 16—Mate, A. Lowe.



**LUNAR TABLES.**—We are glad to find that the Elder Brethren of the Trinity House have followed the example of the Admiralty, in rewarding Mrs. Janet Taylor for her Lunar Tables, which, we believe, are in a forward state for publication.

His Royal Highness the Duke of Sussex, as President of the Royal Society, has been pleased to appoint Captain W. H. Smyth, Royal Navy, a Visitor of the Royal Observatory at Greenwich, in the room of the late Captain Henry Kater.

Lieutenant George Davies, R.N. now of the Teignmouth station, has just been presented by his Majesty the King of the French, with a splendid gold medal for his "*Courage et dévouement pour sauver des Marins Français naufragés*," whilst on the coast of Kent. This officer had previously received medals from the Humane society and Shipwreck Institution, for similar exertions in favour of English vessels in distress, besides having saved two lives by swimming.—*Hants Tel.*

The Admiralty Order, established five years since, directing a gold medal to be conferred once in two years, on such two surgeons as have acquired the most naval medical science, and whose journals may be the most approved of, has lately been bestowed on Doctors John Liddell, R. P. Hillyar, and William Donnelly; the latter officer has just been appointed to the *Astrea*, which we understand is a permanent appointment. By the demise of Sir Gilbert Blane, this mark of favour will in future be dispensed by the Physician-General of the Navy, Sir William Burnett, Knight, K. C. H. *Ports. Herald.*

### **Births.**

At Torpoint, the lady of Capt. Harry Richards, R.N., of a daughter.

In Coburg Place, the lady of Lieut. Thomas, R.N., of a daughter.

Lately, at Pentewan, the lady of Lieut. Price, R.N., of a son.

At Torpoint, the lady of Lieut. Taylor, R.N., of a daughter.

At Milford, near Godalming, the lady of Lieut. Binstead, R.N., of a son.

(1802,) the second officer on the list of Captains.

In George-place, Plymouth, Robert Goldin, Esq., Purser, H.M.S. *Caledonia*, being on leave of absence, aged 53.

Of consumption, at Siena, in Italy, Commander Holmes Bond, R.N., (1828,) aged 41.

At his house, East Emma Place, Stonehouse, Commander William Morgan.

At Ostend, P. Boyle, Esq. M.D. Surgeon, R.N.

On the 7th May, in Upper Canada, Thomas Menzies, Esq. Purser, R.N., aged 63.

At St. Mary's Place, Poplar, Commander Thomas Favell, R.N.

At Bedminster, Mr. J. G. Ravill, Purser, R.N. (1805.)

On the 17th June, at Barbados, of the yellow fever, Mr. William Chamberlain, aged 17, Midshipman of H. M. steam-vessel *Firefly*, son of Lieut. W. B. Chamberlain, R.N. of Porchester.

In Canada, on the 24th of June last, Mr. Thomas Godfrey, Purser, R. N. (1800), aged 53.

At Berkeley, aged 59, Lieut. Adam Robertson, Royal Navy.

### **Marriages.**

August 4th, at Monkstown Church, by the Rev. H. F. Jones, Lieut. John Palmer Battersby, R.N., eldest son of the late Rev. Leslie Battersby, LL.D., to Maria, second daughter of the late Charles Jones, of Kilmacarick House, county of Wicklow.

At Chelsea, Lieut. A. Larby, R.N., to Anna, daughter of M. Sisk, Esq., of Cadogan-street.

### **Deaths.**

At Carrickfergus, a few days since, Captain Lennox Thompson, Royal Navy,



## FALMOUTH, 20TH AUGUST.

## LISBON—Sails every Tuesday.

Packet.	Sailed.	Due.
ESPOIR .....	26 July	23 Aug.
PANTALOOM .....	31 July	27 Aug.
NAUTILUS .....	7 Aug.	4 Sept.
STAR .....	15 Aug.	12 Sept.
SCORPION .....	21 Aug.	18 Sept.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days; sails 1st of every Month.—Route—*Gibraltar, Malta, Greece, Corfu, Egypt, and India*, and thence returns in the same rotation.

FIREFLY, st. v. .... | 3 Aug. | 25 Sept.

NORTH AMERICA—9 weeks; sails 1st Wednesday every Month.—Route—*To Halifax and back to Falmouth*.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

BRISIS ..... 4 July | 5 Sept. |

SPY ..... 8 Aug. | 19 Oct. |

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks; sails 1st of every Month.—Takes La Guayra Mail.

GOLDFINCH ..... 3 July | 25 Sept. |

NIGHTINGALE ..... 3 Aug. | 26 Oct. |

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—*Crooked Island, HAVANA, VERA CRUZ, Tampico, Vera Cruz, Havana, Falmouth*.

Packet.	Sailed.	Due.
PANDORA .....	18 May	4 October.
REINDEER .....	17 June	4 Nov.
PIGION .....	17 July	4 Dec.
CAMDEN .....	17 Aug.	4 Jan.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks; sails 15th of every Month.—Takes *Carthagena* Mail.

SEAGULL ..... 17 June | 9 Sept. |

STANMER ..... 17 July | 9 October. |

MUTINE ..... 17 Aug. | 9 Novem. |

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks; sails 1st Tuesday every Month.—Route—*January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth*.—September to December inclusive: *to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth*.

MELVILLE ..... 9 May | 26 Sept. |

OPOSSUM ..... 5 June | 23 Oct. |

SWALLOW ..... 10 July | 27 Nov. |

ECLIPSE ..... 9 Aug. | 27 Decem. |

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

AFRICAN, St. V.—Lt. Com. J. West, 26th July from Mediterranean.  
LAFWING—Lieut. Com. G. B. Forster, 2d Aug. from South America.  
LYRA—Lieut. Com. J. St. John, 1st Aug. from Mexico.  
NETLEY—Lieut. Com. W. Wright, 3d July from Lisbon.  
Plover—Lieut. Com. W. Downey, 19th Aug. from Mexico.

REWARD—Lt. Com. G. B. Dunsford, 10th Aug. from Jamaica.  
SHELDRAKE—Lieut. Com. A. R. Passingham, 16th Aug. from Jamaica.  
SKYLARK—Lieut. Com. C. P. Ladd, 22d Aug. from South America.  
TARTARUS, St. V.—Lieut. Com. R. B. James, 21st Aug. from Mediterranean.  
TYRIAN—Lieut. Com. E. Jennings, 6th Aug. from Halifax.

The following ships are at last advertised, as entitled to prize money, and which is now payable: *Acasta*, *Amaranthe*, *Captain*, *Castor*, *Circe*, *Dolphin*, *Ethalion*, *Gloire*, *Hazard*, *Hawke*, *Haughty*, *Jason*, *Intrepid*, *Latona*, *Narcissus*, *Neptune*, *Pompeii*, *Ringdove*, *Recruit*, *Superieure*, *Unique*, and *York*, for the *Saintes*, captured in April, 1809. *Ætna*, *Asia*, *Albion*, *Brune*, *Devastation*, *Dictator*, *Diadem*, *Erebus*, *Espoir*, *Euryalus*, *Fairy*, *Hebrus*, *Jaseur*, *Iphigenia*, *Madagascar*, *Manly*, *Majestic*, *Melpomene*, *Menelaus*, *Meteor*, *Ramillies*, *Recruit*, *Regulus*, *Royal Oak*, *Seahorse*, *Severn*, *Surprise*, *Terror*, *Thames*, *Thistle*, *Tonnant*, *Trave*, and *Weser*, for the *Chesapeake*, captured August, 1814. *Britomart*, and *Thrasher*, for *le Naver Vrow*, and *Young Amie*, captured June and July, 1812. *Sabrina* and *Vesta*, for *Princess de Beira* and *Pepe*, captured December, 1811, and June, 1812. *Bacchante*, for four gun-boats and stores, at *Fort St. George*, captured October, 1813.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**JULY, 1835.**

Month Day.	Week Day.	BAROMETER, In inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	W.	30.11	30.11	65	69	48	74	S.E.	N.E.	4	5	B.	B.
2	Th.	30.05	30.07	64	75	51	76	E.	S.	3	3	Bcp 2)	B.
3	F.	30.10	30.11	65	73	55	74	S.W.	S.W.	3	4	B.	B.
4	S.	30.10	30.06	65	71	56	72	S.W.	S.	3	3	B.	B.
5	Su.	29.94	29.87	63	69	55	70	S.W.	S.W.	3	3	Bcp 1) (2)	Bcp (3)
6	M.	30.05	30.11	62	70	53	71	W.	S.W.	3	3	Bc.	B.
7	Tu.	30.17	30.14	60	68	49	69	S.E.	S.W.	2	2	Bc.	O.
8	W.	30.00	30.02	64	68	54	70	S.W.	S.W.	4	5	Bcp 1)	Bem.
9	Th.	30.00	29.94	62	64	53	65	S.W.	S.W.	5	5	O.	O.
10	F.	29.83	29.90	63	67	56	68	S.W.	S.W.	6	7	Bem.	Bem.
11	S.	30.10	30.10	64	68	53	69	W.	W.	3	4	Bc.	Bc.
12	Su.	30.06	30.00	61	69	50	70	S.W.	S.W.	6	6	Bem.	Bem.
13	M.	29.86	29.86	62	64	54	67	S.W.	W.	5	6	Bcp (2)	Qp (3)
14	Tu.	30.06	30.08	62	68	52	69	W.	W.	3	4	O.	Bc.
15	W.	29.93	29.89	64	68	50	70	S.W.	S.W.	5	5	Bc.	Bcp 4)
16	Th.	29.95	29.95	65	73	58	74	S.W.	W.	2	2	Bem.	Bc.
17	F.	30.07	30.07	66	74	52	75	S.W.	S.W.	5	5	B.	B.
18	S.	30.00	29.96	69	78	55	79	S.W.	S.W.	3	4	Bem.	Bem.
19	Su.	30.16	30.17	69	75	53	77	W.	S.W.	2	3	B m.	Bc.
20	M.	30.17	30.17	66	78	52	80	S.W.	S.W.	3	3	Bc.	Bem.
21	Tu.	30.24	30.22	71	77	63	67	E.	N.E.	5	5	B.	B.
22	W.	30.26	30.26	68	72	57	73	E.	E.	5	7	B.	B.
23	Th.	30.27	30.25	68	73	56	74	E.	N.E.	3	4	B.	B.
24	F.	30.21	30.20	70	74	57	76	N.E.	E.	5	5	B.	B.
25	S.	30.18	30.16	69	74	54	74	N.E.	N.E.	5	5	B.	B.
26	Su.	30.17	30.17	68	72	56	72	E.	E.	7	6	B.	B.
27	M.	30.06	30.06	70	78	55	81	E.	E.	4	5	Bc.	Bc.
28	Tu.	30.08	30.08	72	82	57	84	W.	S.W.	1	3	Bc.	Bc.
29	W.	30.23	30.21	65	76	56	79	N.E.	N.W.	3	3	Bm.	B.
30	Th.	30.19	30.15	70	75	57	79	N.W.	N.W.	3	3	Bm.	Bm.
31	F.	30.13	30.13	63	74	56	76	N.W.	N.	3	4	B.	B.

JULY—Mean height of Barometer=30.084 inches; Mean Temperature=64.0 degrees;  
Depth of Rain fallen=0.25 inches.\*

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hail.
6 Strong Breeze.	l Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	p Passing temporary showers.
10 Whole Gale.	q Squally.
11 Storm.	r Rain—continued rain.
12 Hurricane.	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	- Under any letter indicates an extraordinary degree.

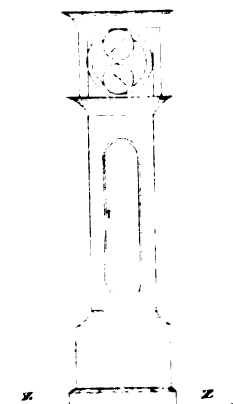
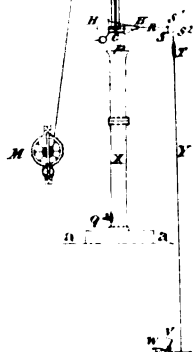
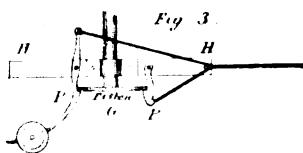
*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

\* Just a quarter of an inch—a remarkably dry month!

LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.



A detailed diagram of a pendulum clock mechanism. At the top, a horizontal bar represents the escapement, with a central vertical axis and a horizontal arrow pointing left. Below this is a circular pendulum bob labeled 'C'. A vertical rod connects the bob to a small component labeled 'g'. Below 'g' is a bell-shaped component with two small openings labeled 't'. The entire assembly is supported by a rectangular base. At the bottom, two weights are shown, labeled 'm' on the left and 'm' on the right. A horizontal axis labeled 'O' and 'B' passes through the base, with a small circle labeled 'P' on the left side.









## ORIGINAL PAPERS.

OCTOBER, 1835.

**DANGER NEAR THE LINE; in the Track of Ships both Outward and Homeward bound.***To the Editor of the Nautical Magazine.*

SIR—The bark *Crown*, of Liverpool, bound to Bombay, struck upon something, which was supposed to be a reef, on the night of the 9th of February last. Its position, and the circumstances attending this event, are detailed in a letter to Messrs. Brocklebank, of Liverpool; which letter, the commander of the *Crown* (I cannot make out his signature) gave to Captain Cheape, of the *Strath-Eden*, at sea, and which was handed to me at the Cape of Good Hope, and was purposely left open for the information of such as Captain Cheape might have the opportunity of shewing it.

A passenger on board the *James Pattison* had a chart shewing no less than five supposed dangers about the same latitude, and between about  $17^{\circ}$  and  $22^{\circ}$  W. longitude. This parallel might easily be well examined for a few degrees of longitude, in the fine weather usually existing there, by any king's ship passing, not upon special service as to time; and perhaps the circumstance, as related to have occurred to the *Crown*, may cause this question to be set at rest, whether any of these shoals exist, or whether the *Crown* may have passed over a wreck or other body accidentally in her track.

R. D. MIDDLETON,

Commander of the "*James Pattison*."

"We crossed the equator the same morning (9th February) with a pleasant breeze at E.S.E., carrying fore-topmast studding sail, going  $6\frac{1}{2}$  knots. At 10h. 45m. P.M. I was much alarmed in perceiving the vessel to touch the ground, and grating with the keel as if passing over a coral reef. I immediately hastened upon deck; the vessel was still grating over the shoal: so soon as I found her clear of it, hove the ship to, lowered the boat down, and went to sound, having previously desired the chief officer to try for soundings, which he did, when we left, but found none with 120 fathoms. We retraced the track of the vessel as near as I could calculate, and, after about two hours and a half, returned without any success."

Latitude of the spot where the <i>Crown</i> struck	57 miles S.
Longitude by chronometers	23° 25' 45" W.
„ by lunar observations	23 12 15 W.

**SHOAL OFF CAPE ANTONIO, CUBA.**

SHIP *Kingston*, Benjamin Baynton, (commander,) and ship *David Lyon*, Captain Selby, being in company on the 27th May, 1835, at 9 h. 40 m. A.M., Cape Antonio, (Island of Cuba,) bearing  
NO. 44.—VOL. IV. 4 D



S.E. by S. seven or eight miles, saw the bottom, and sounded in ten fathoms; kept away to N.W. and ran off the bank, the extent of which could not be ascertained. The arming of the lead brought up coarse sand. At noon, Cape Antonio bore S.E.  $\frac{1}{4}$  S., latitude by observation  $22^{\circ} 4' N.$ ; both ships agreeing in latitude, supposing ourselves about five leagues off the cape, which could be just seen off the deck, (height of the eye, about thirteen feet.)

We were at least a quarter of an hour on the shoal, and there might be much less water on some parts of it.

Supposed Latitude . . . . .  $22^{\circ} 0' N.$

Supposed Longitude . . . . .  $85^{\circ} 0' W.$

No discoloured water could be seen to the eastward from the masthead, either at noon or when on the bank.

*DIRECTIONS for Ships passing through the Straits of Madura to Soerabaya by Capt. A. Fraser.*

THE *Lady Hayes* found twelve and thirteen fathoms through, inside Katampang, during the night, in which situation she found herself unexpectedly. After bringing Passurwang to bear S. by W. about eight miles' distance, not intending to take a pilot, steer N.  $\frac{1}{4}$  W., by compass, being careful not to go to the westward of this course, to avoid the dangers on the Java shore; or, perhaps as well, steer north, keeping in twelve or thirteen fathoms. You will observe a remarkably smooth conical peak to the westward of you; with that bearing W. by S. you should be in twelve fathoms; W.S.W. in seven fathoms and a half. As the water begins to shoal, then alter course to N. E. by N. and run two miles; if you should shoal under six fathoms and a half, keep her N.N.E. You will by this time have the peak S.W. and less water, perhaps quarter less six, at about eight miles from the straits. Now steer north, and in a distance of three miles you will shoal to a half three, soft bottom, if in the channel; if hard, rather too near the Java shore, but, as from hence you can see the beacon that marks the edge of the shoal-water on the Madura side, it being of timber, with a bamboo topmast, and bearing about N. N.W. five miles distance from you, steer direct for it, till within one and a half or two miles of it. Edge away about N.W.; according to tide, you will or ought to come within half a mile of it; then bring her up gradually to W. by N., keeping close round the fishing-stakes, (Madura side,) where the water deepens to seven fathoms, soft bottom. Keep rather to the northward, for by hauling in too soon for the shipping, you may get on a hard bank to the S.E. of the river's mouth.

It may be well to observe here, that the island off Tamba river, in Horsburgh's charts, does not exist; but there is a rock or reef,



dry at low-water, close to the Java shore. The rock or shoal in same chart bearing N. N. E. of Passurwang is not known to the pilots, but the courses given will lead clear of its site, and also the dangers off Bandigan ; which island, by following the above directions, you will not see ; it should be carefully avoided, unless going between it and Madura, where I understand there is a good and safe channel. The Madura side of this gulf is best during the south-east monsoon, the winds being far more regular. Off Belega there is a bank, but there is plenty room to avoid it, as it does not extend far off.

Having brought up in Soerabaya roads, you will do well to await the visit, if you do not wish to incur port charges, when you will ascertain the port regulations. There is a vigilant eye upon strangers from the guard-ship, therefore, if not allowed, do not let your boat be seen in communication with any other vessel. The port charges for anchorage, per last of about two register tons, is one guilder or rupee ; pilotage seven rupees per foot each way, one-third copper and two-thirds silver, the latter about one-eighth sterling each. If bound to the eastward from hence, you may easily apply these directions *vice versa*, observing, as it will be hardly possible to cross the flats in one tide, you will have to lie a tide in the mud.

The country surrounding, for some extent, appears alluvial, and is perhaps not equalled or surpassed in the world for fertility ; its productions are amazing, and yet capable of great augmentation under a more liberal government, consisting of rice, sugar, arrack, turmeric, sapan wood, rattans, cow-hides, and buffalo. These constitute the principal articles of export, the sugar being only bottoms, the superior white clayed sugar being a government monopoly, as well as the coffee entirely. These two latter articles are sold at government sales at Batavia, at indefinite periods, that depending mostly upon the state of their coffers.

The Maats Chapye seem to enjoy very peculiar privileges, to the exclusion of the British merchants, whom it would seem the Dutch are anxious to weed out from amongst them. I do not think it in very strict observance of the treaty between the two countries. Having spoken of the two principal articles of their growth as monopolies, it must be understood that they are taken possession of immediately from the grower, scarcely allowing him sufficient for his own consumption, and sold just at what period best answers the views of the government. The coffee grower has but little left him after the government exactions of somewhere about three-fourths of the total value. With sugar, as the production of it is in its infancy there, greater privileges are given to the cultivator. I believe pecuniary assistance, or land, is given, to enable him to meet the great expense of steam machinery. But when at maturity, the sugar planter must expect no better usage than the coffee



grower. The natives, it is needless to say, under such oppressive taxes, make out a miserable subsistence. The different degrees of respect paid to Englishmen and the Hollander, throughout Java, are very striking. Of rice, the average exports of this district is about 12,000 to 16,000 tons; coffee produced, about 7,000 or 8,000 tons; sugar, in this and the eastern districts, for the season of 1833, was expected to be about 14,000 tons—a considerable increase will take place in its production. The port of Soerabaya is doubtless the best in Java; smooth water at all seasons, a tide about nine feet, excellent holding-ground, not so pestilent as Batavia, a convenient river, a delightful country around, pleasant mansions, and hospitable people: indeed there seems, if possible, more good fellowship amongst the residents themselves, viz. those belonging to the two flags, than is to be met with in Batavia. But it is with much delight that I can bear witness to the uncommon hospitality, and high integrity, of the British merchants in Java; like those in China, their word is their bond; even with every Chinese trader, the word of an English merchant will pass current for thousands—well and nobly do they uphold their character.

#### DIRECTION FROM SOERABAYA TO THE WESTWARD.

For four miles you cannot go wrong, for fishing-stakes on either side. If not high-water, you will then perceive abreast of you, to the eastward, the Buffles, two islets or rocks, the outer one rarely covered; there are fishing-stakes outside of them. On the western side, in the bight between the town of Grisse and Soerabaya, are the Pysangs, an extensive shoal; it is out of the way of running ships, and there is an abundance of room for plying outside of it; but if borrowing this way, you will deepen from seven in the fair-way to ten fathoms upon the very edge; you must tack immediately, or you will be on them. After passing Grisse, keep rather towards the stakes on Madura side, to avoid the banka tree, which commences immediately from Grisse, and occupies the whole of this western bight. Towards the shoal the bottom is foul, and unfit for anchorage. By keeping over on the Madura side, and steering from stakes to stakes, in plenty room, with seven fathoms, clear of all danger, with a favourable wind and tide, you will soon see Fort Ludowick on the outermost island from the western side, and Bankalan pier on the eastern. N. by E. is your course, keeping still towards the Madura stakes. The spit of soft mud from Fort Ludowick has a beacon on it, in a quarter less three fathoms: here the channel begins to narrow, and the set of tides is various and strong. With the flagstaff west, and Point Panka north-west, come no nearer to the fort, or you will be on the spit; the beacon bears about N. N.W. of Point Panka. Both banks are steep to the channel, a bare three-quarters of a mile wide; towards the spit, if drawing in with the tide, you will have twelve, five, and



three, rapidly, and aground as quick. From the beacon, the flag-staff bears S. W., and the Regent's White Wall Zidayo, N.W. by W.  $\frac{1}{2}$  W. In passing the beacon, it is usual to anchor a boat N. by W. of it, in about three fathoms. There is sufficient tide to back and fill through. On the first of the tide the water is very turbid, but after a little it subsides, and you can see the shoal water on either side, during the easterly monsoon; in the westerly or rainy monsoon it is not so, you will then experience a tide of five knots here.

After being passed this danger, the fishing-stakes will lead you up to the first beacon on the starboard or eastern side. The channel is nearly N.W. and S.E. both sides beaconed; on the Panka side, until you have passed the first two beacons, it is rocky bad ground; do not borrow on this side. The first beacon on the sea-bank is in two fathoms and a half, hard ground; after that soft mud; borrow more towards it. In coming from the northward and westward, you will observe three remarkable flat hummocks, called the Coffins of Dood Kests; when you shut the two in behind the north-east, astern of the largest, you will be able to see the first beacon on Madura flat. The above direction may be then easily applied in the opposite way, if bound to Soerabaya.

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DIRECTIONS FOR THE HARBOUR OF LUCEA, *Jamaica.* By *Lieut. B. Baynton, R.N.*

THE harbour of Lucea\* (or Saint Lucea) is one of the best on the north side of Jamaica, and never can be mistaken in the offing, as a single bearing, S.  $\frac{1}{2}$  E., of the Dolphin Head (a mountain about seven miles in the interior) will lead a ship into the harbour, which is capacious, and affording good anchorage for the largest ships. The entrance is half a mile wide, and no known dangers exist, except what the accompanying survey points out; † indeed a pilot is scarcely necessary, as the sea-breeze (N. E.) blows directly in, and, by keeping on the larboard shore, instead of the fort side, large ships can round to, with their heads to the northward, and anchor off the church in five fathoms, good holding-ground, and out of the swell which a strong north wind occasions. During the prevalence of these norths, which occur in our winter and spring months, the Barbary Hill side becomes dangerous; but, as ships seldom anchor on that side of the harbour, except for the purpose of going out with the sea-breeze, or early in the morning with the land-wind, it cannot affect those in the proper anchorage.

\* See further directions for Lucea in p. 131, No. 37; and also a view of Lucea Point.

† This will shortly be published by the Admiralty.



Merchant-ships anchor in three and four fathoms off the town, and moor with a stream to the south-east. Water can be procured from two wells, one of which is public, the other private; wood is scarce. The market is held on Saturdays, and pretty well supplied with ground provisions, fruit, and vegetables; and fresh beef can be procured good on Wednesdays and Sundays.

The district round Lucea is in a high state of cultivation, and it is considered the most healthy station in the island for his Majesty's troops. The barracks, hospital, and officers' quarters, are all new, and built near the fort, on government land, a rocky isthmus, about fifteen feet above the level of the sea, which surrounds it on all sides, except that part towards the church, which is walled in, having a gate leading to the town. This consists of one lengthened street, having very few cross ones, with a population of five or six hundred people. Lucea would be an excellent station for any of his Majesty's ships in a state of convalescence, or even in sickness, as good beef and vegetables can be procured twice-a-week, and fish, by hauling the seine; and the harbour is perfectly smooth in the morning for the men to take an airing in the boats.

It may be here proper to mention, that a base-line was measured on the sandy-beach between Barbary Hill and Lucea, (or West River,) by Captain Nixon of the navy, accompanied by me, and afterwards verified by another base. The principal base was more than seven hundred yards in length, from which a series of angles were taken by theodolite and sextant, to the principal points; and, as no cross bearings appear in former surveys, nor any notice of a rocky patch off the fort point, the present survey will be useful as a guide to strangers; or, during a north gale, when pilots cannot venture out to bring ships in.

In conclusion, I may state that a small pinnacle rock exists in the harbour, one hundred yards off Chambers' wharf, with only five feet water on it, and eleven feet near it, on which one of his Majesty's schooners struck about two years ago. I was for one week employed before I could find it, and could not place it on the chart, except by cross bearings, which would be perfectly useless to a stranger; but, to guide others, I give Barbary Hill house on with Retrieve Estate works, and the centre of Mr. Dawe's house on with a cocoa-nut tree at the back of it. Dawe's house faces Mr. Chambers' wharf gate, and Retrieve works lie to the south-east of Barbary Hill.

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PHILIPPINE ISLANDS.—*Rock in the Track to Manilla:  
Ship struck.*

WE are indebted to a correspondent for the Leith Commercial List, containing the following account of a dangerous rock lying



immediately in the track of ships running for Manilla from the eastward :—

The following communication is from Mr. John H. Robertson, commander of the barque *Minerva*, of Alloa :—“ When bound from Sydney to Manilla, on the 10th of September, 1834, at 2 A.M. the vessel struck on a sunk coral rock, (not laid down in any of our English charts,) bearing from Point St. Jago, Island of Luconia, one of the Philippine Islands, E. S. E.  $\frac{1}{2}$  E. four or five miles distant. Within half a mile of the rock there are seventeen fathoms. Point St. Jago lies in about  $13^{\circ} 41'$  N. latitude,  $120^{\circ} 38'$  E. long.” Some years ago an American ship was lost upon the same rock.

On referring to the chart, we find the tracks of the Spanish vessels *Descubierta* and *Atrevida*, within a very short distance of this danger, and we would remind navigators, that, as the Spanish survey was by no means a minute one, there may be many other dangers yet unknown in the channels between these islands. By keeping midchannel, and not hauling to the northward until Point St. Jago bears east, this rock would be avoided.

## NAVIGATION OFF LOWESTOFT.

Trinity-House, London, 10th Sept. 1835.

NOTICE is hereby given, that, in pursuance of the intention expressed in an advertisement from this house, dated the 3d inst., a *White Buoy* has been laid at each extremity of the shoal in *Lowestoft South Roads*.

The Buoy on the South end lies in three fathoms at low-water, with the following mark and compass bearings, viz. :—

Lowestoft High Light, its breadth open	
to the Eastward of the Low Light . . . . .	N. $\frac{1}{2}$ E.
Kessingland Church . . . . .	S.W. by W.
Stanford Light Vessel . . . . .	E. $\frac{1}{2}$ N.
North-West Inner Newcome Buoy . . . . .	S. E. by S.

The Buoy on the North end also lies in three fathoms at low-water, with the following mark and compass bearings, viz. :—

Kessingland Church . . . . .	S.W. by W.
Gorleston Church Steeple, four times its	
apparent length, open to the Eastward	
of Corton Cliff . . . . .	N. $\frac{1}{2}$ E.
Stanford Light Vessel . . . . .	E. $\frac{1}{2}$ S.
North Newcome Buoy . . . . .	S. E. $\frac{1}{2}$ S.

By Order,

J. HERBERT, Secretary.



## THE TIME-BALL AT GREENWICH.

*To the Editor of the Nautical Magazine.*

SIR,—In sending you a description of the time-ball at Greenwich, I may observe, that in a maritime country like England, it is some matter of surprise that establishments similar to that at Greenwich are not to be found at our principal sea-ports. To have the error of his chronometer given him at any port where he may accidentally touch at, or be driven for shelter, *in a manner that he can depend on to obtain its rate*, while it is not moved from its place on board his ship, would be a boon to the merchant-seaman of even greater value than to naval men. The port of London, from its proximity to the seat of naval administration, has had the good fortune to enjoy the advantages of such an establishment, at the government expense; but it would well become the enterprising and wealthy merchants of Liverpool, the second port of the kingdom, for the sake of that vast commerce which is daily frequenting its shores, to establish and preserve a similar one, even at their own expense, at Liverpool. So worthy an example, no doubt, would soon be followed at other ports of Great Britain, and would at least prove to our foreign neighbours, that, both by private and public means, we are all aiming to forward that great and sacred cause, the *public good*.

Your obedient servant,

NEPTUNE.

The following is the description of the apparatus :—

*C*—The ball.

*A D*—A square mast on which it traverses, projecting through the eastern turret *t* of the observatory, and through the centre of the ball.

*m m*—The lead flat of the great room of the observatory.

*O B*—A circular iron plate in which the mast is stepped, and which is steadied by the roof of the turret at *g*.

*F G*—An iron rod, to the upper part of which is fixed a part of the mast, and to the lower part the piston *G*. The upper end of this rod is of larger diameter than the lower.

*I*—An iron cylinder, with a stop-cock at *q*; the base *a a* on which it stands being the level of the floor of the great room.

*R S T Y*—The discharging-rod.

*V*—The cock, and *w* the trigger, for discharging the ball.

*M*—The winch for raising the ball.

*N*—The chain for lifting the ball, and passing over the pulley at *O*.

*H H*—A strong iron plate fixed in the wall, on which stand the two iron rods *I I*, and which are fixed at the top, in the circular plate *O B*.



*k*—These rods guide the piston-rod, and also an iron weight *k*, (passing through the lower part of it,) to the back of which weight is fastened the end of the lifting-chain *N*, after passing over the sheave at *O*.

The construction of the mast, and the manner in which the ball is made to traverse up and down it, is as follows:—

Fig. 2—represents a section of the mast at *d*, which will assist in explaining its construction. *c* is a solid piece of deal, (the whole length of the mast,) *d* and *e* two other pieces screwed to it. The three angular parts *h g f* thus left are filled by pieces extending the whole length, and firmly screwed in the places; but the part *o* is fitted by a piece, the upper end of which is secured to the upper part of the ball, and the lower end to the top of the piston-rod at *F*.

When the ball is down, the weight *K*, to which the chain is fastened, rests on the iron plate *HH*, and the top of the piston-rod *F* rests on a projecting piece at the bottom of the weight at *L*. The chain being fastened to this weight by means of the winch, is made to draw it, and with it the piston-rod and ball.

The piston *G* being raised (as shewn in the figure) to the iron plate *HH*, forces its way between two detents *PP*, which open and close on it, and thus support the ball.

The discharging-rod *RSTY* has a crank at *s*, with two joints at *s*<sup>1</sup> and *s*<sup>2</sup>. *t* is a box containing a strong spiral spring; the rod *Y* is secured to the bottom of this box, but the part of the rod above the box *T*, and below the crank at *S*, has a short movement within the box, in connection with the internal spring. The purpose of this spring is, by acting against the ascent of the ball, when it is raised to the masthead, to accelerate its descent when let fall, thereby preventing any adherence to the mast, and giving it rapid motion immediately.

*V*, the discharging part, has two notches which serve to fix it at half and whole cock, in the same manner as the lock of a gun. When the ball is to be raised, the handle at *V* is raised to the half-cock; this raises the rod *G*, and pushes the part *R*, and prepares the detents *PP* for receiving the piston, which detents open, and are closed by means of the crank and the spring at *T*. When *V* is raised to the full cock it compresses the spring, and exerts a greater force in keeping the detents closed. When the trigger *W* is pressed down, to discharge the ball, the rod *G* descends, and draws the part of the rod *r* to the right, which removing the detents *PP* from beneath the piston, allows it to drop into the cylinder. The piston being adapted to the size of the cylinder, as it descends compresses the atmosphere, and a resistance is thus obtained sufficient to break the fall of the ball with its supporting rod in the mast. A brass cock at the bottom of the cylinder regulates the escape of



the atmosphere beneath the piston, so as to allow the fall of the ball to be more or less, as required.

Fig. 3—shews on a larger scale the plan on which the detents are constructed.

When the ball is first raised to the masthead, the weight *k* is at *F*; for the shoulder of the piston at *F* resting on the rim of the weight at *L*, is thereby raised up with the ball. But before the ball is discharged, the lifting-chain is entirely unwound, and the weight *KL* thereby descends, and rests on the plate *HH*, in order to give the piston and ball freedom to descend.

During the time that it has been used, the ball has always been observed to commence its descent with 0·2<sup>s</sup> after the impulse has been given to the trigger.

The time of discharging the ball is at the instant of one hour P.M. mean time at Greenwich.

The mast is surmounted by a weathercock, and letters pointing to the four quarters of the compass.

ON THE DEFECTIVE STATE OF DISCIPLINE IN SHIPS OF THE MERCHANT SERVICE; *shewing the loss occasioned to the Owners thereby. By the Master of a British Merchant Ship.*

*To the Editor of the Nautical Magazine.*

SIR,—It is not a little extraordinary, that, considering the extent of our trust, in respect to the lives of others—and that next important consideration in this our state of human existence, their purses—that we should consist of a set of men, without either the power or inclination apparently, of combining in one voice of complaint the grievous disadvantages under which we are continually suffering from the conduct of those persons who are erroneously said to be “under our command.” We are trusted, I say, with an almost unlimited power over the safety of lives and property; and yet we are obliged to put up with insults from men, over whom, if we have not entire control, we are unable to answer one moment for the safety of these charges; and yet no one will take up this subject, and endeavour to obtain some law to ensure a proper state of order on board British merchant-ships; nor do the commanders, or masters, or captains, (all misplaced terms at present,) seem to do more than repine at their helpless state, without making one effort for their own relief.

If this matter were looked into, the good people on shore would be truly surprised how any “gentleman” could take charge of a ship, and submit every day to circumstances which no other person of any tolerable education would put up with on shore; indeed, the state of civilized society forbids it; but we are actually placed without the pale of such rules of society, and are unworthy,



apparently, of that consideration enjoyed by others who live under the same happy government. We are, Mr. Editor, frequently, nay, continually, placed in that helpless state which that of no other description of people could be compared with; a state that, to a man of proper feeling, renders the situation of a man in charge of a ship one of the most mortifying that can possibly be conceived. With the semblance of power, with the property and lives of others under his charge, the master of a British merchant-ship, when he would exert the authority he should possess, finds his arm paralyzed completely by any frivolous assertion of those he is supposed to command. Seamen are allowed to indulge in this opposition, and, being more cunning than formerly, are become well aware of the inefficacy of the law to hurt them, so that the government of a ship is now the mere shadow of a form.

In whatever may consist the value of the diffusion of education generally, it is clear that a British sailor is not made the better for it, and for which assertion I could give some very good reasons, were it necessary here. I well remember what he was during the hottest of the French war, always an ungovernable animal; now he is worse, he has become a designing one. It is no part of my plan, however, at present, to claim the attention of any one, either for the seaman or the unfortunate being placed at the head of a gang of sailors on board a merchant-ship. I once thought that an attempt to benefit both might be considered worthy the attention of those who had influence enough effectually to take this subject in hand; and let me say, that here is a field for an independent member of parliament, to build lasting reputation and honour upon, besides obtaining the gratitude of the commanders, officers, and seamen of his country, for the situation of all want amending; but it is the owners who should consider the subject *for their own interest*. They are little aware how considerable their loss is by the conduct of the seamen employed in their ships, and what loss occurs, more or less, upon every voyage undertaken by every British ship. If this consideration does not induce them to bring about an amendment of the state of this service, nothing will, and it must rest till matters get a little worse, and which "the march of intellect" will assuredly effect ere long; and, instead of the Spaniards, Portuguese, Creoles, &c. employed in the slave-trade, being the only ones nurtured by their humane traffic into pirates; we shall have the commanders and passengers of a few British ships murdered, and the glorious days of the old Buccaneers and the spirited fellows cruising on "the Account" renewed. I do verily believe that the great body of British sailors, ay, a very great proportion indeed thereof, would just as soon join in such acts of lawlessness and bloodshed, as they would go to dinner, if it were not for the fear of their necks; and it only wants a few more "educated," aspiring, clever fellows amongst them, to place the delights of this kind of



life properly before them, and to induce them to forget its risks, to have sufficient volunteers for any thing that is bad and desperate.

I know this is an unpopular view of these fine fellows, "the British tars;" but it is high time to prevent the world being further humbugged (saving the expression) by such nonsense. The real fact must not be disguised, that the life and habits of the common sailor render him the most unfeeling, unprincipled being on earth. How can it be otherwise? what is the life of a sailor? his ordinary routine? Whenever out of a ship, he is more or less in a state of beastly intoxication; during this time he is in the society of the very lowest and worst description that can be found; from the day of leaving his last ship, he has, probably, never been quite sober, till he joins another; here he arrives, plundered to the last farthing, and, most probably, in debt the advance he gets in his new service; diseased both in body and mind; and here he mixes with others from the same sort of dens of iniquity: and this is the picture of his life. Just imagine, Mr. Editor, a man amongst them, "*partially educated*," one that has just learned enough to be able to estimate, when he comes to his senses on board ship, (for *he will have mixed in his messmates' sprints on shore*) the true nature of his life; and, if this is a man of little more than ordinary feeling, he soon becomes just in a fit state for being a proper tool in any one's hands, for deeds of any desperate character, if not himself to originate them, and lead others. So much for education among sailors, which, however, it was not my intention to have meddled with. What is to be expected from such a routine as a sailor's life consists of? The only mode he has of revenging himself upon human kind (short of turning pirate) for the expulsion he feels is his doom—from all their sympathies, and the common instincts of our nature—is to act the brute, the unwarrantable brute, towards those who are placed over him on board ship, and which the company he has just left on shore has taken care to instruct him he can play off with impunity.

It will be said that there are laws formed for controlling seamen in the merchant service—no doubt—and very prettily they read; they are like many other things that look very well upon paper, and are perfectly useless in practice; they just serve the purpose of the numerous "sea lawyers" to be found in every port; who, under the plea of serving the sailor, put money into their own pockets, in defiance of all justice and propriety, robbing the owners in the most barefaced manner. Perhaps the articles entered into with the seamen may be thought by their conditions to serve as something binding upon them, who, however, is not aware, that when these articles are brought into a court of law, they are refused to be acknowledged as binding upon the sailor, except for his rate of wages, and for the voyage specified; all other conditions are,



without scruple, overruled, because, forsooth, it is imposing upon "honest Jack," who cannot be supposed to be aware of what conditions he has been inveigled into ! Thus, in fact, the law is nearly a dead letter in protecting the property of the owner, or enabling the master to maintain the least authority : this every one knows, who has any thing to do with the subject ; and I will illustrate this by the detail of some few events which occurred on the voyage I have just completed.

Amongst the crew was a man of the most ferocious and diabolical disposition that can possibly be conceived ; we had no sooner got clear of the channel than his outrageous conduct was such as prevented the possibility of doing otherwise than to separate him from the rest of the crew. He was accordingly ordered on the poop ; then, in the evening, he made a most alarming, and altogether unprovoked, attack upon the steward, who was getting water from the dripstone ; he was consequently put in irons, and confined in a small cabin that happened to be unoccupied, and where he remained some time, till, falling in with a king's ship, the captain came on board us, to visit a naval officer of rank, who was my passenger, and he was persuaded to take the man ; which, however, he could only do, *provided he volunteered*, and which his confinement induced him to do. Now, I will suppose that such an opportunity had not occurred to get quit of this man, what does the law permit us to do with him ? Why, keep him on board till my return to England ! and which event did not occur for fifteen months after. I assert that there is no consul, or magistrate, or court abroad, that would have relieved me from the necessity of keeping this man till my return ; except, perhaps, by instituting an expensive and tedious process in a vice-admiralty court, which the operations and object of the voyage did not admit of ; and, though the law would not of course have awarded this man wages, yet it would have inflicted no punishment whatever, except perhaps for assault on the steward : in respect to his breach of duty as a seaman, he had done nothing criminal ! Suppose there had been half-a-dozen such men as this on board, a pretty enviable situation that of commander !

Subsequently twelve or thirteen men, influenced principally by one who thought himself peculiarly skilled in the "Law Marine," refused their duty ; we were in a harbour where it was not possible to get a sailor ; the ship was ready for sea, and they were called up to unmoor, which was refused. I really can hardly have patience to record this event, so incredible would it seem to an Englishman on shore, unacquainted with such events ; nor can I recollect what their plea was, so utterly groundless I know it proved : they wanted some grog, or some unreasonable thing of that nature. Recourse was had to the magistrate, who could, as I well knew, grant me no relief ; and it ended in his soliciting, *almost begging*, that the people would return to their duty. The effect of this conduct of



the people was, to lose the opportunity which then presented of sailing; the wind changed, and I was in consequence detained a full month, with one hundred people to victual, and a large crew to pay; and the object of the voyage was also endangered by the detention, to say nothing of the serious inconvenience of such detention to a number of passengers, which in this case caused a delay in measures which materially affected the interests of a whole colony. The owners, by this affair, could not have directly suffered less than £300 actual loss! besides the detention of a valuable ship, and the ultimate probable consequences thereof. Now, what redress does the law afford for all this, or what punishment will it inflict for such cool, barefaced acts of mischief? (for I can conscientiously declare the men had no excuse whatever for their conduct;) they might be made to forfeit their wages—good, so far: many of them had little due to them, and for that little they did not care one farthing; for, had they got their discharge where they then were, they could have earned eight or ten shillings per day; and this I believe was their object. Now, these men having been persuaded by the magistrate to *resume their duties*, I believe that if a *proper practiced* “sea lawyer” had their affairs in hand, that, notwithstanding the serious loss I have stated above to have been directly caused by their altogether unjustifiable conduct, that he would recover their wages! and I should be told probably that the owners have their remedy, *in an action against each separately* for damages, in a court of law; any punishment being inflicted for such conduct is out of the question; there is nothing criminal whatever in it, according to the happy law under which they live.

Some short time after, five or six men again refused their duty. The ship was then lying in a situation which I consider about as dangerous a one as can well be; a day or two only was necessary to get out a few goods, and proceed on the voyage, and these men refused to load a craft which had come from the shore, because it was Sunday morning. Now, I do not, except in cases of necessity, ever require men to work on Sundays; but I am the sole judge of such necessity in the ship I command; and here it existed, in the most decided and unquestionable manner, as was ultimately proved; for I was barely able, two days after this Sunday, to get clear of the anchorage, when a gale came on, which, had it caught us there, it is my conscientious belief that it would have been worth fifty per cent. to have insured the safety of the ship through it. These men would not, however, load the boat. I had anticipated such an event, and left orders, should it occur, to have people from the shore at any expense, to expedite business, which, under the circumstances, was really of such a pressing nature. These men were off work two or three days, and I have charged them the hire of those employed in their stead; which, however,



I am well persuaded, there are hundreds of lawyers in London that would advise "poor honest, abused Jack" not to allow, and who would seize the ship, by virtue of process in the Admiralty Court, and who would, twenty chances to one, succeed in making the owners pay the full wages, and saddle them with a considerable sum of costs into the bargain; indeed, such is the dread of this court on the part of owners, (and with great reason,) that there is not one in a hundred that will not compromise any claim, rather than defend an action in it. Punishment is here again quite out of the question, though their conduct was next to the wilful destruction of property; they endangered it, as well as the lives of from forty to fifty people then on board the ship: and I think it will be readily admitted, that many offences on shore are punished with transportation which are not one hundredth part so bad.

I will yet detail one more occurrence that took place during the same voyage, which shews a cool determined villany, and a contempt of all principle, that would almost indicate an absence of all idea of human obligation, and is quite corroborative of the character I have already given of these people. A store-room had been broken into, and about three dozen of wine stolen; two of the people were observed to be intoxicated for a day or two together, which, I apprehend, was quite sufficient evidence of their being the thieves; indeed they did not deny it. Of course, in this state, their usual allowance of spirits was denied them at noon, and the reason plainly stated, on which they refused to do any more duty; and I saw no more of them till arrival in port, at a British colony. This mode of dictating what is to be allowed to them, let their conduct be ever so bad, only shews what is to be expected from such people. I have turned them on shore, which act, though I knew to be illegal, I thought I might safely do, not judging that, under the circumstances, these men would ever have the hardihood to shew themselves voluntarily before the civil power; but, bad as was my opinion of them, I had yet to learn the extent of their utter contempt of all decency. They applied at the police-office, to oblige me to take them on board again! and such is the law, that the magistrate was under the necessity of telling me I must do so, unless the men consented to leave the ship. All this I knew very well was perfectly regular, and I of course bowed to such decision, but said, that if they did come on board again, it was my determination to put them in irons, keep them on bread and water for the passage home, and try them in England for the robbery; in fact, I was obliged to bully them into the belief of what I certainly never should have thought of carrying into effect, their prosecution, (as any body will readily believe,) and they were frightened sufficiently at my threats to withdraw their application to the magistrate, and I saw no more of them. Their wages being about sufficient to pay for the robbery, as respects the two, though



one of them had been such a notorious thief during the whole voyage, that it is impossible to estimate the extent of the loss he occasioned. When I stated to the magistrate the extreme hardship of being obliged to take on board such characters, who would not do duty, he, tacitly assenting to the remark, said that I might of course at once prosecute them for the robbery, but, that if I instituted such prosecution, I must remain to carry it on. This, to the commander of a very valuable ship, (just calling then for water,) with a valuable cargo, seventy people on board, and full of passengers, who would probably themselves have prosecuted me for the delay! But the magistrate was correct enough; it was no fault of his, he only stated what I knew very well was perfectly correct! How long, then, is the law to remain in such a state? My experience of such affairs would, unfortunately, enable me to go on detailing cases of this kind, that the Nautical Magazine would not in one number be able to contain; but here is sufficient to shew *a direct loss to the owners*, and if they will not interfere, and get the laws amended, which permits such acts with impunity, why, all I can say is, that they richly deserve to be so robbed. But, does the loss remain with them? does not the public pay for it, after all?

The tenor of my remarks upon this honest creature, "Blue Jacket," may appear severe and unreasonable, and may by many be considered as impossible to be true. But, Mr. Editor, let such unbeliever embark in a merchant ship, continue by the ship a whole voyage, and, if he be not a convert, then I am content to be considered a fool. It may also be imagined, that I am tyrannically disposed, an aristocrat, or, perhaps, that this is written by one used to the discipline of the navy, &c. &c. No such thing; I have passed my life as much on shore as at sea, and that in society of the first respectability, and I am wholly free from any military notions tending to tyranny; but this I will also add of myself, I am not infected with the mischievous mania of the "march of intellect," the "rights of the lower orders," &c. &c.; but am one who, holding in reverence what he has learnt from the history of the ages that have gone before him, has seen enough of the present to know that all such stuff is cant, and that society cannot be held together, nor the institutions of any country upheld, except by due submission of all grades in that society, to their superiors. The scriptures enjoin us "to render honour to whom honour is due;" and I am of opinion that this precept is about as much required in the present day, to form the text of a good useful sermon, as any to be found in that great authority. The levelling, ridiculous notions which a parcel of "theorists" and "saints" form, when comfortably seated in their arm-chairs, (exactng at the same time probably the most abject submission from their own domestics,) are too absurd, when looked at by those who can do so, in the application of these people's vagaries in practice. I will, however un-



popular it may be, oppose these visionaries still further, and maintain that the poor and uneducated, those in fact whom the Almighty has evidently made to live by their labour, and the sweat of their brow, are bound in reason, and enjoined both by divine and human law, to be subservient to their superiors. Their superiors are those to whom Providence has assigned wealth, rank, and knowledge, in this world; and for the proper use of which they have sufficient responsibility ultimately, without the necessity of the working classes forming a court of inquiry on them; in fact, it is quite unnecessary to go further back into history, (though it all proves the truth of what I maintain,) than the beginning of the French revolution, to be satisfied that the "lower orders" are not fit to be trusted with power, but that, on the contrary, they are clearly designed to be under restraint, to control human passions, and observe proper order in society.

In *very* many situations, as well as on board ship, unconditional obedience is necessary for the due carrying on the affairs of the world: this has in all times been admitted to apply to military affairs, and a modification of military law, I maintain, (to come to the point,) is essential to the maintenance of that due authority which is necessary for conducting with safety a merchant ship. This may be unpopular; to qualify it, however, to those who may entertain such notion, I beg to inform them, that there exists *at present* a degree of *brutal tyranny* in the merchant service, to an extent that few people are aware of; an unjustifiable tyranny, which I wish to see done away with, and discipline, a mild, but proper, gentlemanly discipline, substituted in its stead. To those who can advocate any other system than "positive obedience," as being effective in the conducting of a ship at sea, I would put these questions: Who, but the master, is to be the judge of what is proper to be done, *away from the possibility of appeal to other's judgment?* and even were it possible, by having at hand the means of advising with others, say the captain with his officers, for instance, are there not hundreds of situations in which there is no time for opinion? added to which, would it not be dangerous in the extreme, and subversive of all authority, that the people should have any other idea than that "the captain must be right?" This notion may be scouted, as ridiculous and unreasonable; but I will maintain, that to conduct a ship with effect, through perils and difficulties, this feeling must exist in the people, or the end will not be attained. "Unconditional obedience" must be insisted upon; and in this consists nearly all the law I want.

In the number of the United Service Journal, (Jan. 1833,) I took some pains to go into detail on this subject; I have well considered it since, and remain convinced, that, what is here laid down as a practical regulation for the government of seamen in the merchant service, would be effectual; that it presents no obstacle



to its being readily carried into effect ; that it would accomplish every end that could be desired, would most materially improve the merchant service by inducing respectable men to enter into it ; and would also *improve infinitely* the situation of the seamen themselves, by doing away with all motive for the exercise of that sort of tyranny which I have asserted is exercised over them at present, and set at rest the grand cause of complaint, nine times out of ten the origin of the disturbances on board ship, by insisting upon a scale of proper rations being supplied to them. The sum of all I have insisted upon, as law for the government of seamen in the merchant service, is, as I have said—"obedience : " a noncompliance with which should be a positive, unconditional forfeiture of wages to the owners, and imprisonment, when such is proved against them before a magistrate, consul, or naval officer ; all which authorities to be *obliged* to interfere, and take the man complained of away from the ship, and carry into execution this law ; that the master be absolved from all further engagement with him ; that an assault on the master or chief mate, or mutinous conduct, be punished by transportation for life ; that, upon even personal abuse towards the master, or an assault upon any other officer, transportation for seven years ; some minor punishment being inflicted for abuse of any superior whatever ; and, refusal to defend the ship, or use proper exertions in cases of danger, to forfeit the man's life ;—that all offences committed at sea should be immediately prosecuted, at the public expense ; that evidence should be taken before a proper officer, so as not to detain any of the crew of the ship on shore ; which last is a very material addition to any law which is to be rendered effective. This is the principal, the substance, of all that I think can be considered necessary. In respect to corporal punishment, it forms no part of what I would have established as law ; but I have (and I repeat it here) expressly said, *that the right exists, and must, as an inherent one*, neither requiring law for its support, nor to be by law abolished, while to effect a complete change in the nature of man, by removing his natural depravity and the existence of human passions and infirmities, remains impossible. In cases of extreme necessity, *any measures whatever* are clearly to be taken, for the safety of all ; and when such cases occur at sea as renders the services of every man essential, such measures must be pursued as will produce the desired end, and that instantly ; and I defy any one to say that coercion does not here become *indispensable*. Control the abuse of this exercise of authority as much as possible, but forbid it, and you legislate against common sense, and the experience of ages, which has clearly shewn that the vulgar and uneducated are only to be controlled by the dread of punishment, in all its grades, even to the taking away of life. The infliction of punishment, however, in any of its degrees, should no doubt be



restrained, and confined as much as possible to the hands of responsible persons; and therefore, *prima facie*, I would admit that exercise of power by the commander of a merchant vessel, in ordering corporal punishment, should be considered unjustifiable; and, let him be prepared to shew that actual necessity existed, wherever he has recourse to it, (and which will rarely happen.) Let every such case *rest upon its own merits*. To elucidate what I would have understood, and to shew how ridiculous it would be to endeavour to tie up a man's arm by any human law, in cases of emergency involving life and death, in the exercise of this undoubted right, let one of the instances be taken which I have related as having occurred to me—that of the two men who broke open the store-room, and stole wine, and who refused to do any duty because the indispensable and very natural measure was adopted of stopping their grog. Suppose, from the crew having been weakened by sickness, or from any other cause whatever, the services of these two men had become absolutely necessary for the safety of the ship, I will appeal to common sense, whether any law could be framed, except by insane legislators, that would condemn immediate recourse to the most effectual means, be they what they may, to bring these men to their duty; but, as their services were not even missed at the time, punishment should be (as it was intended) postponed, till higher authority could be appealed to. But, for God's sake, let some laws be framed that will enable these authorities to aid us, when we have patience to await their interference.

It would be well, before the attempts that are making to do away with corporal punishment in our military and naval service are carried any further, to look at the consequences in this light, and which shews, I think, *its abolition to be a thing absolutely impossible*. Let those (no doubt well meaning) philanthropists who are absurd enough to believe it can be effected, first reform human nature, and make us all reasonable creatures, and effectually do away with the necessity of punishment, and, I will answer for it, that no set of persons will more readily coincide with them than those with whom the painful duty of inflicting it rests.

As this is a subject which sooner or later must attract the attention of our rulers, although I very likely may not live to see it, and as, whenever it does, I cannot help thinking that at least some of my suggestions and reasonings may be found not quite useless, I will merely add a remark upon the part I have thought should be adopted in respect to the interference of our naval officers, at sea and abroad, in supporting the due authority of the commander of a merchant ship. I am induced to do so, because I think it not unlikely that the officers may at first sight object to it. I have too great a respect for this service (to which I regret I do not belong) to propose any thing that would in the most remote degree detract



from the high honour and importance belonging to it; but, when I call upon them to do us service, I consider I am adding to their dignity, and unquestionably to their usefulness; I would in fact have them aid us as a "marine police." I have, in my observations in the United Service Journal on this subject, said that they should, upon complaint made to them, take out of the ship any man who refuses his duty, and keep him in confinement till they can deliver him over to some other authority. There is surely nothing in this objectionable. We should then look upon them, when we encountered them at sea, or abroad, as our most powerful friends and supporters; the seamen would learn to respect the sight of a pendant, the presence of which would effectually check their misconduct; and they would learn beforehand to honour a service which ultimately they may be called into. At present, what is a king's ship to a merchant vessel? If a naval captain is called upon to render any assistance, he does not know how to act; his hands are tied; he cannot take a man out of the ship, even at the most urgent request of the master, unless the man volunteers; no, not even should he want hands himself; he cannot punish a man belonging to our service; (he has enough to do now to answer for the punishments inflicted upon his own crew;) and, in short, men-of-war, in these "piping times of peace," are of no earthly use to the merchant service, and we have no sort of intercourse with them, and look upon their arrival and departure, where we lay, as though they did not belong to the same nation as ourselves.

As respects the affairs I have detailed, as occurring on a recent voyage, (and which are as nothing to hundreds which I have previously witnessed, in point of brutality and violence,) I can truly say that there was no cause whatever for them; there was neither want of proper and abundant provision, nor irregularity in its issues; the duty was never severe, (far from it;) and I can bear the most unqualified testimony in favour of the behaviour of the officers of the ship towards the people; they having evinced patience and forbearance, which to many on shore would indeed be surprising, could they witness what has to be put up with in these situations.

My own direct interference with them was out of the question at the commencement of these affairs; therefore I need not claim any merit of this kind, which indeed I am free to confess I do not in any eminent degree possess: nor can I endure the encroachments of the vulgar and illiterate; a feeling which, however, may be consistent with the exercise of the utmost degree of consideration for their proper rights, privileges, and comforts.

A MASTER OF A BRITISH MERCHANT SHIP.



## THE FERRY BOAT.—No. I.

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“ Boatman, shove in, and take me up, for I’m in haste to cross;  
 If I’m not ferried o’er to-night, I shall sustain great loss.  
 Well, lose or gain, Sir, sink or swim, ’tis more than I dare do,  
 My bark’s now off, is quite choke full, and I’ve no room for you.”

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Who has not, in the course of his travels in France, seen a village ferry-boat? so wide and low, that its gunwale is almost level with the water, while in the air is suspended the halser by which it is warped across; on this species of moving bridge, men, cattle, carts, and children in the midst of their play, pass over; this bark, with its multifarious cargo, oft contains the fortune of a whole village; for the first crowing of the cock in the morning is their signal for starting, and they return not until they have the twinkling splendour of evening’s first stars to light them across: then the boatmen having anchored her by the shore, his labours done, there is nothing more to be said about the matter. Thus then, until the following morning, these good villagers remain in their small nook of earth, cut off from intercourse with the rest of the world. Thus are they sheltered from invasion. You may suppose their portcullis let down, and their drawbridge raised, such being the innocent means of defence used for this little feudal state, where a shepherd is the lord and legislator.

At the time when I approached the bark, she was at anchor, the helm moving from side to side, according to the sheers she took occasionally: on her seat, at the poop, I found a boat-woman, who was looking into the water watching the rate at which some objects floated past: she was tall, robust, her brawny arms were well tanned, her hands were large and coarse, her face dusky, but the features were good and agreeable, her teeth white and even, her physiognomy spoke much in her favour, it announced candour and honesty, and if she had said, “ Sir, though I *now* look ugly, old, and coarse, at *eighteen* people told me I was handsome,” I should not have hesitated thinking that she told the truth. I cannot afford to lavish much praise on a description of her habiliments. She had a large straw hat, not a little the worse for wear, a small red handkerchief, a deal the worse for washing: altogether, there proceeded from her person and her garments, that (to me) delicious odour of tar, that I think preferable a thousand-fold to all the musk millefleurs, &c., with which Parisian belles imbue their persons and infect the air.

“ Pray, my good lady, will you be so obliging as to ferry me across?” “ Lord, sir, the thing’s impossible at present; the Angelus will not be rung these twenty minutes; and little Jack, who rows to-day for his father, is gone to fetch my dinner. I am alone, as you perceive, and must wait the arrival of a cargo: to



start now is impossible," Good ; in that case I must wait patiently for the Angelus ; and little Jack, who, in your estimation, doubtless, is likewise an angel. Eh, my good madam, you love little Jack a little bit, I reckon ; is it not so ?" " Yes, yes, you may say that, sir ; Jack is a man to me ; he is not all out ten yet, but he can take his father's oar : to see him row and hear him sing, would do your heart good. The first thing he does when he wakes in the morning, is to sing, and I hear him do the same when he's undressing. How I should like you to hear his fine clear voice chanting out the hymns for morn and eve, and the pretty ballads he carrols while at work. I have been told he ought to have a master, as he could be taught to sing so well, that he might be able soon to get his bread by it. But could we part with Jack ! Oh, no ! without his aid, what would become of us ? But for Jack, last winter, I believe we should have died of hunger and of grief, heart-rending grief !"

" Indeed ! did things go wrong ? had you misfortunes ? Heaven knows all people have their share of troubles !" " Ah ! sir, ours was a large, a bitter portion ; for my other son—O wo is me !" " What, then, you have another son, and he has not prov'd to you such a blessing as his brother !" " A blessing ! no, no, no ; a curse, a curse !" The woman here lifted her apron to her eyes, and gave vent to her grief in tears. I was concerned to think I had awakened feelings of sorrow, which might have remained dormant but for my indiscretion ; and I was about to withdraw, when she continued, " Ours is a melancholy fate, we were so happy, so contented once, and now are so cast down, so wretched, so unfortunate ! It is ambition, sir, pride has been the ruin of us. Ambrose, my eldest son, got discontented, and above his situation : this came from his consorting with bad company."

" Why, what a hand is here ! (said Arthur, scoffingly,) this tugging at the oar has absolutely turn'd your skin to horn ;" " the heart of this unfeeling knave had long alas been turn'd to stone ; he set my child against the honest occupation of his father, which had been that of his great-great-grandfather, and ought to have been his own ; for, what do you think, sir, this vain lad, who thought himself too great to row in her, was actually born himself in this same ferry-boat." " Indeed ! why that was enough, one would think, to give a taste for the calling, being, as it were, born with an oar in his fist ! You should have kept him at it, my good woman."

" Ah ! sir, there is the misfortune of it ; we acted wrong, or rather I did, for I must confess, that, after all, a great part of the blame must rest with me. O, sir, pride, as I said before, has been the ruin of us ; and if that vice made even angels fall, how can poor frail and erring mortals hope to keep free from a snare that so entangled them ? The case is this, sir : Ambrose,



when puff'd up with the conceit of being fit to cut a figure in the world, contrived to make me of the same opinion: he was clever; yes, the poor boy was clever, and he is so still: he learned to write so quick, and cast accounts, and, oh, he read so well; I was so delighted to hear him, that when he talk'd of getting a good education, I began to think indeed he ought. One night, while thinking over this matter, the notion of making him a priest first came into my head. Yes, he should become a curate: I should have the delight to see him saluted with respect by all who pass'd him in the street; to hear him call'd your reverence, and to know that he was ask'd to dine each Sunday at the chateau; well, sir, this notion took possession of me, and got completely soon the better of my judgment."

"Look to the south-east, sir, there, upon that pretty little spot of ground which slopes so gently down towards the river, you'll see a snug white cottage among trees, that once was ours, with five good acres of rich ground: with that, I'll promise you, we did not think ourselves poor: well, sir, I would not let my good industrious husband know a moment's peace, till he consented to dispose of this nice little property; the produce of which was set apart to give Ambrose such an education as I said should qualify him to become a curate; though, poor infatuated lad, he cried a bishop, mother! I must have a mitre! be assured my head was made to wear one!"

"Well, sir, away he went to the classes, and studied hard to become a learned man: and, according to the account I got from others as well as himself, he was successful. When the time came for him to take orders, and he came home to spend his holidays, then it was he spoke to me about his wanting a few dollars to provide a black silk cassock. O this black silk cassock, sad is the recollection of it! my poor heart has been in mourning about it ever since." Here the unhappy woman paus'd again to shed more tears, which I would not interrupt by uttering a syllable. At length she resumed her story. "You must know that the autumn by-gone had prov'd to us more than usually prosperous: the fishing season was the best we had ever known; and the fair was so much better attended than usual, that our profits were greater than I ever recollect them." "Wife, (said my poor old Peter, for he, though but a fisherman, was named after the holy apostle whom the Lord made a fisher of men,) wife, look at this little purse, 'tis full of good crown-pieces, they shine through the meshes like salmon in a net; these are our savings, my old girl, and they will serve to make us comfortable, and the time when we shall want some extra comforts is at hand. I felt it was, for the wind came in so bleak from the north-east upon me, that I rose to close the window, when a parcel of yellow leaves fell on my head, and the mournful song of the redbreast



fell on my ear as I was pulling down the sash." "Now, Martha, let us have a bit of consultation how we shall lay out these twelve crown pieces; eh, these will make us snug and comfortable all the winter, won't they? What say you, Jacky?"

"To this question neither Jack nor I made answer, because we had settled the manner of laying the cash out beforehand." "Perhaps, (resumed Peter, seeing we offered no reply,) we should do well to buy a porker from our neighbour Griskin; I have had my eye upon one of his pigs, which would suit us to a nicety, he is large, fat, and fit for the knife; we'll salt him, smoke him, and, at least this winter, we shall have some enjoyment at our meals, and not be reduced to such a wretched diet as we were last season; not that I speak on my own account, wife, but for you, my good old dame, and Jack, who is growing now at such a rate, that he ought to have a good solid nourishing meal every day, by way of brick and mortar to keep up the building. Eh, his limbs are lengthening, but it seems to me they stand in need of filling up and plumping out a little."

"Well, now, I must declare these observations cut me to the quick; for well I knew my little fellow did require a good meal of meat, and that he had been the worse for our hard fare the previous winter: I scarce knew what to say, when Jack, who noticed my confusion, answered for me: saying, 'No, no, father, don't you buy Griskin's pig on my account; I don't need meat, or want it. As for growing, I have pretty well got through that job now, I reckon, I don't want to shoot up above your height, and I am much about as tall as you are already.' 'Why now who ever heard such stuff? go along; you talk nonsense, urchin; you are wicked tall of your age, and strong too, certainly, considering; but who ever heard of any one's leaving off growing at eleven? nay, you are not that yet.' 'Father, grow or not, what matters it; but I don't want pork; besides, I know right-well how you should lay out this spare cash.' 'Indeed! pray how, lad, eh? For my part, I know no other mode than that of doing it in such a way as to make us all comfortable: first and foremost, boy, you'll want a jacket, that you have is worn to rags, you'll soon be naked; your mother wants a famous good strong pair of shoes, yes, regular *trampousers*, and I shall need a little brandy to keep me warm inside, when I am fishing up to the knees in water; now don't you think I shall, wife?'

"How could I answer such a question, I was properly dumb-founded, but Jack once more came to my relief. 'Father, (said he, rising,) my brother Ambrose is now taking orders, and he must positively have a black silk cassock and a three-cock'd hat, he can't dispense with these; we will eat bread this winter, as we did last, and mother will mend my jacket; a patch upon it here and there will make it good as new, I'll warrant you.' Oh the



dear fellow, I never saw him look so handsome as when I heard him speak up for his brother so disinterestedly. I wept then, and I do so now, while thinking of it.

“ ‘ My boy, (said Peter,) there is nothing in which I would gainsay you, except in this affair of the priest’s garment. It can’t be: no, these crowns must be laid out on your mother, yourself, and your old dad; by dad, they must! Your brother, do you see, is well fed, is found in fuel, has a comfortable bed with sheets, and as many blankets as he chooses; we sleep on straw, with nothing over us but our summer dress; he fasts forty days, our lent lasts all the year, and lucky should we esteem it if our Sunday’s meal was equal to his banyan dinner. Don’t talk to me about this three-cock’d hat and black silk cassock, wife, I won’t hear of it!’ “ And yet, my dear Peter, these articles he must have, positively, being now in orders. Come, we must make a sacrifice of comfort in his behalf; what shall hinder us from getting as well through this winter, as we did the last? You surely would not prefer seeing a fitch of bacon hanging in this chimney, to beholding your son seated above the chanters in the church, giving his benediction? ‘ Yes, father, (said Jack,) you must take my brother’s case into consideration; they scoff at the poor fellow, crying, where is your cassock? indeed, indeed, Ambrose must be assisted, send him these twelve good-looking pieces, father; send them.’ ”

“ By no means, my fine fellow: why, if I part with them, t’will be the death of us. Come, Jack, take you them, boy, I’ll give them to you readily, but not to Ambrose. No, no, that chap has ruined us: for him we sold the pretty little vineyard your old uncle Robert left us, then the house and orchard that I got by my poor brother Richard; all that we had has gone to pay for the expenses of his education. I’m thinking yet, you’ll see me forced to sell my boat and all my fishing nets! Then turning to me, he said, ‘ Wife, what shall we get in recompense for all these sacrifices? Come, I’ll tell you; maybe a mouthful of dog Latin from a priest when we are stretch’d on our death-bed:’ he sighed and shook his head, then, taking out the crowns, began to count them up to eleven, but he stopp’d at the twelfth. ‘ Jack, (he said,) here, boy, this piece I’ll put aside for you; how shall I lay it out, let’s see; you shall have cakes and gingerbread galore, sugar plumbs, barley sugar, sweet meats; yes, and you want a good clasp-knife, you’ll like it with a cork-screw, that’s convenient; you shall have it, and a few more *gincum-cracks*. The playthings of the priest, your brother Ambrose, are a precious sight more costly, lad, I’ll warrant you. Come, take this piece, it shan’t be said that you are the only one in the family who has not made ducks and drakes of our money; squander this, Jack, that your brother need not blush at finding nobody to keep him



in countenance; come there's a fête to-day, set off with you, amuse yourself, my lad, right jollily, you won't want cash to pay the fiddlers, and can treat your partners with a glass of lemonade, and give them lots of nuts and oranges. Then he clapp'd him on the back, call'd him his dandy ferryman, throwing the crown-piece up and catching it every now and then, before he made Jack pocket it. Now, sir, I must say, people are very much to blame, and ought to be ashamed of themselves, for not telling parents the plain truth about the matter, when they take in hand to persuade them 'tis a good thing to have a son brought up to be a priest. Oh, it will *cost you nothing* they declare, yet we are constantly call'd on to lay out money; you must pull out your purse to a man in black, who will look black enough when his demands are not complied with instantly, and who takes all he can get, without so much as saying thank you; meantime, we must live on bread and water, while one's clothes get ragged, the nets worn out, and the boat leaky." This last remark was doubtless suggested by observing that the bark was taking water in so fast, that bailing her became now absolutely necessary, and with a wooden bowl she slashed the water out as handily as if she had been educated in a peter-boat; and so indeed she was, for this huge ferry-boat belong'd to poor old Peter.

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#### HEIGHT OF WAVES CONSIDERED.

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"Drear, dark, and dreadful lower'd the sky,  
 All chilling fell the drifting snow;  
 The raging surge ran mountains high,  
 The north-west wind did piercing blow." *Loss of the York.*

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THE elevation of waves by the force of the wind during a tempest, has frequently attracted the attention of those who have traversed the ocean, but, it would seem, without any correct result having been ascertained of the true amount of such elevation. The alarm usually and naturally excited in the mind of the landsman, who for the first time experiences the novelty of a storm at sea, has given rise to exaggeration in description; he uses the language of hyperbole, to express the height to which he has witnessed the waves rise on such occasion; and his readers, or hearers, are left to satisfy their own ideas on the subject, by a comparison which is vague and indefinite, that of billows running "*mountains*" high! Poets are privileged beings, and they accordingly are found using their immunities in profusion; in their typical and figurative expressions they are, therefore, not touchable: our business belongs to the prosaic tribe, and we shall take the liberty of overhauling some of them.



As old sailors, we are willing to subscribe to the foregoing, but, at the same time, from all we have seen and experienced in the extreme of boisterous weather at sea, we are not disposed to agree implicitly to the following proposition, which appears to be going the round of the press: "So awful is the spectacle of a storm at sea, that it is generally viewed through a medium which biases the judgment; and, lofty as waves really are, imagination makes them loftier still. No waves rise higher than ten feet above the ordinary level; which, with the ten feet that its surface afterwards descends below this, gives twenty feet for the whole height, from the bottom of any water valley to its summit."\*

Upon what data this positive assertion has been drawn, does not appear; but we have every reason to believe, from a long acquaintance with the "stormy deep," and from all we have seen thereon, that the waves of the ocean during storms, in various parts do rise higher than twenty feet.

The height of a seventy-four gun ship's hull and bulwarks from the water-line is about twenty-four feet—will any *winter* voyager from North America, any captain of an East Indiaman, who has doubled the Cape during the winter of the southern hemisphere, will any one, who has made the voyage to New Holland in the same season, or has experienced a westerly storm in the bay-gulf of Biscay—will any of these gentlemen say, *decidedly*, that, during the extreme of the bad weather met with in those parts of the ocean, the waves have never risen, by four feet, as high as the hull of a ship of the above class?

Taking the immense bulk and unlimited (as to the scope of the eye) longitudinal extent of a rolling swell, would twenty feet of elevation bear out the character applied to a wave in the quotation given?† We think not, considering that those billows are often very wide apart. During the hurricane experienced to the northward of Barbados by the squadron under the command of the late Admiral de Coureay, in July (29th), 1805, the Centaur, a seventy-four of the largest class, whilst lying-to, had the small boat, (a gig), which was hoisted up at the stern davits, washed away, as well as the poop-lantern, by an enormous wave, which was elevated *many feet* above the highest part of the ship's hull, as it rushed past with impetuous velocity: the portion which struck the ship, cleared the poop-deck of every thing!

On the evening of the second day, whilst the hull of our shattered and unwieldy vessel lay rolling in the trough of the sea, the cry of one of the look-out men, of "a ship coming down upon us," made those who were holding on, under the shelter of the weather-bulwark, spring from their covert, to get a peep at the

\* Arnott's Eb. of Phy.

† The words are: "and lofty as waves really are."



scudding vessel. We jumped upon a carronade, and with the greatest difficulty held on, directing our eyes upwards to the position where the stars of the mid-heavens would have been sought for on a calm and clear night! and indistinctly saw a dark object upon the ridge of the towering wave, which was approaching on the weather-quarter. The next minute, a large ship (the *St. George*, 98) dashed close past our stern with a rapidity perfectly astounding; and, before the eye could be well turned to leeward, she was almost out of sight. The danger was imminent, and, but for the providential circumstance of the *St. George's* helmsman catching a momentary glimpse of the *Centaur*, under the foot of the former's foresail, our doom, and theirs too it is probable, had been sealed. One *spoke* of the wheel to port saved us, and barely so, for the giant ninety-eight's proximity was alarmingly close, in her desperate flight before the furious tempest!

If any dependence can be placed upon our eyesight in broad daylight—when much of the heightened peril of the storm seemed to have lessened with the departure of night—and from intent contemplation, for some hours, of the successive *seas* as these came rushing and doubling onwards, as it were, to wipe away with one brush of their curling and foaming fronts, the glorious and inglorious work of man, which lay like a helpless log at their mercy—we should say, that if a horizontal line had been drawn from the apex of the loftiest wave to the ship, it would have intersected the main-mast about half-way up from the deck; which, making allowance for unavoidable error, would give about 50 feet for the elevation of the wave.

Those seamen who have made a voyage from Halifax to England in the *winter*, may bring to mind the lofty billows, smooth as glass, which are there awfully and majestically undulating before their sight—an appearance which, if a sailor be allowed to trust his eyesight, would seem sufficient to give a negative to the assertion which limits the utmost elevation of waves to twenty feet.

In one of those tremendous gales which blow from the American continent, the author of these remarks recollects a circumstance which bears upon the present subject. A large ship, which was for a short time in company with a frigate he was on board of, was lost sight of at intervals when she fell into the trough of the sea, and only entirely visible when both vessels happened to be on the ridge of the respective waves which bore them up: this alternation of appearance and disappearance continued until we had

\* The officers of the *St. George* thought it impossible the *Centaur* could weather the storm; and we, in the latter, gave her up, as she was leaky as well as the *Centaur*; both ships having been aground. We were delighted to meet afterwards at Halifax. When the 98 was hove down, a coral rock was found jammed in the hole which it had made; had this dropped out, she must have foundered!



approached within less than a mile of the ship, for at about that distance, when one enormous wave intervened, she was hid for the last time during the approach. Her elevation from the water-line to her mast-head could not have been less than 90 feet. When both ships were depressed, they were invisible to each other; and when one was on the ridge of a wave, and the other in the trough, part of the masts of the latter were visible to the former.

The distance between the ships, and the relative proportions of the objects, should be kept in mind:—a ship compared to one of those billows would be as a mere speck, allowing the breadth of the wave to be half a nautic mile, or 3040 feet; and if we admit the wave to be only 20 feet, the ship's hull 13, and 5 for the height of the observer, his eye, when his ship was on the ridge of the wave, would be elevated 38 feet above the trough in which the other was situated.

We do not know whether the first part of the extract is meant to apply to seamen; it is not likely, however, that their judgment would be biassed by a scene which has been so familiar to them from earliest youth: it may be applicable, perhaps, to landsmen, who for the first time encounter a tempest at sea.

In the instance we have just given, there could be no deception of the eye, or bias of the judgment—the ship in company was actually hid from our sight, masts and all, at intervals. It rests therefore to be proved, whether, at about a mile distance, a wave of 20 feet elevation is sufficient to hide from view the hull and masts of a vessel 90 feet high.

The circumstance engaged general attention; and every thing on board was as quiet as if the ship had been in harbour. The wind, although a powerful north-wester, steady and uniform in its strength; the swell lofty and smooth, lifting the vessel, as she sped, gently as a nurse lullabies a babe!

A north-west gale at night in the winter season, such as we experienced it, with the beautiful clear blue sky, and the magnificence of the starry heavens—the uplifting of the mighty billows which succeed each other in stately majesty—the powerful rush of the wind through the cordage of the vessel—the otherwise stillness which reigns on board—is in the highest degree sublime; and, perhaps, in the emotion it creates, and thoughts it gives rise to, equals any other scene in nature.

Let us inquire—what is Etna, Vesuvius, or Hecla, in the most outrageous moments of their ravings? Viewed at a distance, although grand and sublime, they do not inspire a sense of immediate danger; those persons only who happen to be in the direction of the torrents of liquid fire are alive to the chance of annihilation, and they may have a way open for retreat.

What are the avalanches, the eboulements, the deep ravines, the glaciers, and dashing cascades, the pathless snowy surface of



the lofty Mont Blanc? To the rash traveller who ventures to clime, in the short and dreary winter's day, the snow-clad steep of this elevated land, alone is the sense of peril susceptible; and even he hath hope alive, from the faithful dog, and the hospitable and generous monk—all its scenery may be viewed, if not altogether with calmness, without great emotion. We have passed over the Haut Alps on foot, in the depth of winter, and encountered a furious snow and hail storm, and the greatest sense of danger and pain we felt was from cold.

What are the tremendous falls of Niagara, with their clouds of spray and astounding noise? They may be viewed with a sort of undefinable sensation of surprise at the vastness of the body of water precipitated into the gulf below—the head may become giddy, and the ideas confused from the depth and the deafening noise—but no sense of danger attaches itself to the mere spectator. What the sensations were of the American madman, who shot the fall once too often, we cannot pretend to say—but, compared to the accompaniments and effect of a grand and impressive northwester, in the midst of the boundless ocean, what are all these?

Every thing connected with the latter scene conspires to impress the mind with the strongest ideas of what constitutes sublimity—here we have associated infinitude, power, vastness, profundity, partial darkness, and in the mind a sense of danger; for, independent of the *four-inch* plank on which the thread of life seems to depend, there is no road or path of retreat—if your craft prove unequal, down—down she must go!

That great orator, and writer on the sublime and beautiful—Edmund Burke—has observed, that the ideas of pain, and above all of death, are so very affecting, that while we remain in the presence of whatever is supposed to have the power of inflicting either, it is impossible to be perfectly free from terror. Perhaps this may be generally true in extreme cases; but it is equally true, that familiarity with peril lessens the apprehension of it; excitement, too, is a powerful dispeller, a sense of duty, pride (that which is worth possessing,) and, above all, the feeling of reliance on Him who hath the power to save—are every one incentive in dispelling the effects of danger upon the mind. But people differently constituted are very differently affected at danger; and this is more apparent when it happens suddenly or unexpectedly, and when certain but indefinite in its consummation.

There are men also, who, though they may not be dead to the sense of danger, never feel fear in its extreme—terror. Association, too, there is no doubt, lessens the sense of fear, as well as of terror, or robs highly impressive scenes of a portion of the effect these would otherwise produce upon the imagination.

It would be difficult, however, to arrive at a right conclusion as to the feelings of a solitary seaman, left alone, from the ravages of



death among his comrades (such as is so well told in the tale of the "Fever Ship") in a storm. One thing appears certain, the sensations which such a circumstance inspires in *association*, would to him, when *solus*, be multiplied; these emotions are more or less deep and powerful with reflecting persons, but not harassing. The melancholy recital of Captain Inglefield's loss of the old Centaur, describes the sailors as dressing themselves in their best clothes, and preparing to meet the inevitable doom that awaited them, with the calmness of the Stoic!

We confess the effect upon the mind, from such a north-west gale as we once experienced, is not easily definable; it has never been effaced from our memory. No doubt, the dangerous state of the frigate must have had its due weight upon every mind; she was in a very crazy condition, and under reduced masts; her main-deck vibrated and waved like cracked ice! Off Ireland we fell in with the Amethyst, and kept her close to us, until making the English coast. When docked, a shipwright happening to put his foot into the step of the main-mast, it went through the keel, so rotten was the wood! We are inclined, however, to think that the impression conveyed would approach nearer to our idea of awe, divested of absolute fear; a sort of feeling allied to that reverence which is held toward the Omnipotent Director himself of the whirlwind and the storm.

We have experienced several hurricanes and thunder-storms, we believe truly without a parallel, where the danger was certainly greater; but the mind was not in these instances left to the *quiet contemplation* of the impressive scenes, as in the north-wester, and consequently not so liable to be affected.

While walking the deck at night, in our passage across the north Atlantic, in the crazy frigate alluded to, during the previous north-west storm, the effect produced both upon the body and the mind, was so remote from the ordinary feelings in a lesser or common gale of wind, that it is difficult to be clearly explained; it must be experienced by those who have any sensibility, to be fully understood; and it is almost impossible to afford to a landsman a correct idea of the scene by mere description. But we will attempt a delineation, although we are satisfied it can only be a faint outline of the reality.

The ship was under close-reefed main-topsail and reefed fore-sail. Four men were at the wheel, and two quarter-masters attended the conning. Two lieutenants\* were appointed to each watch, besides midshipmen. The seamen on deck were constantly on their legs; and the braces, clewlines, &c. stretched out in readiness to be seized; relieving tackles on, attended by the

\* There were some passengers of this class on board, who readily volunteered their services.



gunner's crew; in fact, every thing in readiness, in case of emergency.

The danger of our situation may be understood, when we state, that the carpenter being ordered to make his report, declared, that if the ship was brought to the wind, she would part amidships! We had therefore no other alternative than that of scudding before the gale, which we did, happily without accident; but were necessarily constrained to quit two store-ships which were under our convoy.\* But, leaving the particular state of the ship out of the question, it is impossible to revert to such an event, without feelings of admiration as sincere as powerful, at the high degree of perfection to which naval architecture and seamanship have arrived; the beautiful adaptation of the one to the element in which it floats, and the consummate skill, powers of mind, and science, necessary, and attained by the other, to guide and direct the former with chronometric precision, as if it were an animate being that could hear, see, feel, and obey!

Let the landsman figure to himself a ship under the circumstances described, before the impetuous wind, flying, as it were, through the watery element, with a rapidity at times that is perfectly astonishing. Now with uplifted stern, and prow depressed, speeding down the aqueous declivity as though she were about to plunge head-foremost into the depths below; and now recovering herself, dashing away upon the lofty summit of the wave, on even keel, emulating the wind: this enviable position is short-lived; the extreme breadth of the gliding billow reaches her; her speed instantly diminishes, and downwards, gently downwards she now drops, with stern depending, into the deep, dark, and "melancholy vale below." Let him imagine her now brought almost to a "stand-still" in the bottom of the yawning gulf, as if dropped asleep, or resting to take breath! until the magic billow again touches her with its wand-like *form*, and makes her play her gambols over again and again.† Let him imagine all this, and some faint notion may be formed of what is to be seen in a north-west gale.

When turning from the break of the quarter-deck, and walking aft, just as the vessel feels the impulsive movement of a following wave, that, like a lofty dark wall, with an imperfect outline, seems to threaten instantaneous destruction, as it comes swelling up nearer and nearer, and higher and higher, all the sensations which are described by travellers ascending the giant Chimborazzo, super-

\* From what is said above, it is clear the ship could not contend with an adverse gale; if she had reached within a few hundred miles of England, and there met an easterly storm, she must have run back to the westward, and ultimately, perhaps, have realized the carpenter's declaration.

† The *form* of the wave is so rapid in its progress, that it leaves the ship behind in a few minutes.



vene,\* with others that do not belong to that exploit: the eye at this time intently fixed upwards upon that dark and elevated outline stretching across the stern, which seems, as it approaches, the herald of inevitable doom to the spectator. In truth, the whole scene is one of those extremely impressive sights in nature, which, when once experienced in their height, are not easily, if ever, effaced from the memory, and realizes in an eminent degree that beautiful and striking passage in scripture which says, "They that go down to the sea in ships," &c. &c.

It would perhaps be difficult to reach correctness in measuring the elevation of a wave, but an approximation may no doubt be obtained. How the conclusion has been arrived at, that no waves rise higher than ten feet from the level surface, we are ignorant; it is however an established fact, that what are termed "accidental" waves will reach an elevation exceeding one hundred feet, as has been exemplified at the Edystone and Bell-rock lighthouses. And the surge driven against a cliffy shore by a gale, will throw its sprays over elevated land for several hundred feet, as those who have visited Bermuda may have had an opportunity of witnessing. But, the Frenchman who stood upon the shore of Biscay, and measured the waves, as it is said, has given twenty-four feet as the highest.

In conclusion, Mr. Editor, let us hope that some of your experienced correspondents will advance their opinions upon this topic, interesting to all nautical men; and that our naval officers now serving afloat, will devote their attention to the subject, and give you the results.

ARGONAUT.

The following extract has lately been quoted from the work of Dr. Arnott, as a correction of a popular error:—

"It is a vulgar belief, that the water itself advances with the speed of the wave, but, in fact, the *form* only advances, while the *substance*, except a little spray above, remains rising and falling in the same place, according to the laws of the pendulum. But, when a wave reaches a shallow bank or beach, the water becomes really progressive, because then, as it cannot sink directly downwards, it falls over and forwards, seeking its level."

No doubt, the idea, if entertained, that the whole body of water progresses with the advance of the *form* of the wave, is erroneous. Experience, however, shews that wind has generally a double effect upon the surface waters; it not only creates an undulatory motion, but a portion (not the spray alone) of the water thus risen acquires a certain degree of fluency.

Captain Tuckey, quoting from the work of that enlightened and experienced seaman, Captain Horsburgh, says: In a storm, the ocean is furrowed by tremendous waves, or mountainous ridges of water, each of which rolls on with furious rapidity, until its summit arrives at an overcharging elevation, from

\* Has the (landsman) reader ever tried the amusement of sledging down and up an artificial "Russian ice-mount!" such conveys some of the sensations spoken of.



which it necessarily precipitates itself by the force of gravity, and by the acceleration it has acquired in its descent, impels forward the mass of water immediately before it.

The allowance made for *drift*, when a ship is lying-to, may perhaps be said not to affect the question, that the vessel's hull is thereby acted upon, as also by the force of the wind against every part and portion of her exposed to it, and she consequently must drift to leeward, without there being any fluency in the water. It does not follow, however, that because the wind and the waves, acting upon the vessel, causes a leeward or lateral movement, that there may be no fluency in the waves themselves.

There is not a doubt, that in tropical hurricanes, or indeed in violent gales, attended with heavy *seas*, a portion of the fluid of every wave progresses more or less : this action is clearly perceptible to the eye, when the wave doubles over and *runs* forward, creating a volume of foam, and dashing the spray high into the air. This fluency must in some degree affect the ship, as well as the mechanical action of the wave, when it impinges against her hull, and the pressure of the wind.

It is well known that heavy seas acquire such a momentum in their progressive movement, that, meeting with resistance from the hull of a vessel, the shock they give is so powerful as to make every timber in her vibrate ; and we have known one of the arms of a seventy-four's bower anchor snapped off by one of those curling and topping waves.

But we are ready to admit that this fluency of a portion of the incumbent water, in point of velocity, bears no sort of proportion to that of the *form* of the wave, which has been calculated by Dr. Wollaston as progressing at the rate of sixty miles an hour ! It is probable, however, that the sort of wave denominated by seamen "a *swell*" acquires little, if any fluency : this wave acts vertically on a vessel, and does not come to a conical head as the *sea* does ; and, although a ship, during a calm, when there is a heavy swell on, will drift, such movement may perhaps be attributed more to the rolling motion imparted to her by the action of the wave, than from any fluidity in the water, yet there seems reasonable doubt, whether the surface stratum does not move forward in the direction of the *form* of the wave ; but this is a question which requires confirmation, and we believe has hitherto been seldom considered abstractedly.

The notion is evidently general among seamen, that the waves have some degree of fluency, as the allowance is usually written—"drift of the sea," and sometimes "heave of the sea."

We have never seen any account of experiments to determine these points ; but we may state here, in corroboration of our opinion, that, on mentioning the subject to an experienced naval officer, who has been almost constantly at sea for the last twenty-eight years, and who has thrice circumnavigated the globe, he gave it as his decided opinion, that in all cases, with respect to heavy *seas* during tempests, the waves acquire more or less fluency.

In submitting these remarks to you and your readers, we consider, Mr. Editor, that we have only done our duty, imperfect as they are, and we have done so, with every respect for the authority from whose useful work we have given an extract ; and we shall be gratified if our paper induces naval officers now serving afloat, and other intelligent seamen, to turn their attention to the subject, so that it shall not be left solely to landmen to direct and explain in these matters, which seem rather to be the legitimate province of the seaman.

A.



## AERIAL NAVIGATION.

IN the midst of the present universal activity among steam-vessels, and carriages, and rail-roads, and locomotion in every form, but that of velocipedes, whose sun seems to have set, balloon travelling, or aërostation, as some prefer calling it, is not without its partizans, although in these days, when mechanical questions are better understood than they used to be, they are in a decreasing minority.

Balloons are of such modern invention, that we can easily afford space for a short account of the steps by which the science of flying has reached its present state, such as it is. It was known to the chemists in the early part of the last century, that a certain kind of gas or inflammable air, as it was then called, and also heated air, were lighter, bulk for bulk, than common air, and, therefore, that a mass of such air would float in the atmosphere; but they failed to reduce the speculation to practice, for want of trying experiments on a sufficiently large scale.

The first balloon raised was a small one, by Montgolfier, a Frenchman, in 1783. This was filled with heated air, and small balloons of the same kind are now sold in the shops under the name of Montgolfiers. The rising of smoke in the air suggested the idea that, if they could get the smoke into a bag, the bag itself would be carried up. The balloons on this principle were filled by burning straw and wool under the opening at the bottom, and they floated till the air within became cool, when they soon descended, since it was the rarefaction of the air by the heat, and not the smoke, that caused them to rise. A balloon of this kind, containing 23,000 cubic feet, or equivalent to a globe 35 feet diameter, raised 500lbs. The air within increases its bulk by about  $\frac{1}{500}$  part for each  $1^{\circ}$  of Fahrenheit.

Hitherto the only living creatures that had ascended, and they, probably, not volunteers, were a cock, a duck, and a sheep. In October, 1783, Pilatre de Rozier made his first ascent, taking with him a fire in a grate, by attending to which he contrived, though no doubt in a tedious and imperfect way, to ascend or descend at pleasure. Whatever admiration the poets have awarded to the "hardihood and threefold brass" of him who first committed himself to the water, the greater honour is certainly due to P. de Rozier. Several successful attempts were made in these dangerous balloons, but P. de Rozier, next year, lost his life by one of them; the balloon catching fire at a great elevation, he fell very rapidly and was killed.

The employment of hydrogen gas was first proposed by M.M. Charles & Roberts, about the same time, and balloons speedily attained the form in which we now have them.

The inconvenience of never being able to ascend or descend



without the absolute loss of gas or ballast led to the employment of an internal balloon, containing common air; by forcing air into this, or drawing it out, the weight of the whole could be varied, and, therefore, it would ascend and descend accordingly. But the first attempt of the kind is stated to have been nearly fatal to the four passengers, for the internal balloon fell by some accident on the valve, and being thereby deprived of all control over the machine, they were obliged to pierce it with their sticks, which making a large rent suddenly, they came down with great rapidity.

In 1804, M. Garnerin conceived the idea of a person being able to drop himself from a balloon by means of a large parachute, which, opening like an umbrella, would break his fall by its resistance to the air; this succeeded, and has been since practised. Without at all impairing the credit of the first man who went up in a balloon, that enterprise diminishes almost to nothing when compared with the singular project just mentioned; and it is hardly possible to conceive a greater trial of nerve than the situation of Garnerin, in the act of cutting himself adrift from the balloon, in the region of the clouds, to make his experiment for the first time.

Besides attempts to control the ascent and descent of the balloons, wings or oars have been tried by Blanchard, Lunardi, and others, with a view of getting a direct velocity, but with so little success, if with any at all, that they have been rejected by *aéronauts*.

But all past feats of *aéronautical* prowess are to be put into the shade by a new airy phenomenon, called "the Eagle," "the *aërial ship*;" which is destined for an end of no lesser dignity than "direct communication with the capitals of Europe;" a bird of the same breed, no doubt, as that on whose back the Incas, Manco Capac and his wife, must have come all the way from the sun, to teach the Peruvians the arts of agriculture and spinning: a vessel, that Hercules would have been proud to take the command of, when, on setting out to deliver Prometheus, he preferred to traverse boldly the stormy sea alone, in his own pot; which allegory or exploit was played by Diogenes in his tub to the Athenians, who took him for an original; and also stamps the antiquity, and therefore the respectability, of our own term, *pot valiant*.

The machine is 160 feet long, 50 deep, and 40 wide; the balloon part is intended to float with the longer axis horizontal, and a car, with a caboose, 75 feet long, for the passengers and crew, hangs below, from a net enveloping the balloon. An internal balloon is fitted for the purpose of ascending and descending at will, and the whole is intended to be propelled by fins, paddles, or wings we may call them, since they are of the form of those things like beavers' tails, which are represented on the shoulders of sylphs; finally the creature enjoys the important appendage of a tail abaft.

A similar machine, but we believe of smaller dimensions, was



exhibited at Paris last year, and an attempt made to get "a rise" for the benefit of the Parisians; and a large concourse of people, usually comprehended in the expression "all the world and his wife," assembled to view the ascent. The balloon rose, but something burst, and it came down again, on which the natives, who had expected it would treat them with a little more respect, very sensibly demolished it forthwith, that others might not come in for the sight which they had advanced their money, not to see.

Whether it is to be attributed to our attainments in science, and a corresponding generosity, or to our ignorance of its elements and accompanying gullibility, that this happy country has the honour of being selected by projectors of every kind, as the native soil in which their schemes are to ripen to perfection, is not to be questioned for a moment. Accordingly, after the above failure in France, the genius of projects directs its more auspicious course to our own shores, but whether the wind (which always has to be raised in some shape or other on the eve of great undertakings) was foul, or there was not enough of it, it is related that the aerial ship took her first flight in a waggon.

An ascent has long been promised from Kensington, where the vessel (which we suppose to be in part composed of the former) has been for many months on the stocks, exhibiting to the curious, at one shilling a head, and where all, who wish to have a finger in the pie, have the chance of enrolling themselves as members of the Aeronautical Society, at two guineas a year, together with the privilege of ascending when the balloon does. We will now, with the reader's permission, enter into a little examination as to what this vessel is likely to do, and what she is likely not to do:—

First, then, as to her size and power, or buoyancy. The account under her portrait in the print-shops, and that which we heard in the "Dockyard" are not in the strictest harmony; the former states her capacity at 2,700 cubic feet, the latter makes it 600,000! Now, this last struck us as a pretty considerable quantity, being about the bulk of a couple of three deckers. Accordingly, on performing the calculation,\* we can account for only 167,000.

\* Taking the depth at 50 feet, the width 40, and the length 160, as given out by the society, suppose the middle section an ellipse, its area will be 1,570 feet; supposing the two ends conical figures, whose heights are one fourth of the length, and base 1,570, their united content will be 41,900, and that of the middle portion, an elliptic cylinder, being 125,600, gives 167,500 cubic feet for the content of the whole.

Supposing the wing 10 feet long by 6 across, at the widest part, that it makes 50 strokes a minute, of 90°, which are equivalent to  $12\frac{1}{2}$  revolutions in 1m. or one in 5 seconds, a point 1 foot from the hinge, moves through 628ft. in 5 seconds, or 1.26ft. per second, which is the *angular velocity*, or 1.3 ft. nearly. Now, the pressure on a square foot of surface moving through a fluid, as air, with a given velocity, is supposed equal to the weight of a column of air



What kind of hydrogen gas the aeronautical society intend to employ for blowing their monster's jacket out, we do not know. If the best be proposed, which is 14 times lighter than common air, their treasurer will be hugely put to it, we apprehend; for though gold and platina, which are the heaviest bodies in nature, are among the dearest, yet hydrogen gas, which is the lightest known substance, is very far from the cheapest. If an inferior sort be used, the buoyancy is reduced in proportion. The force or buoyancy which remains after allowing for the weight of the machine itself, as the bag, the net, the car, the wings, and the tail, is found by multiplying the cubic content by the difference of the specific gravities (that is, the difference of the weights of a cubic foot) of air and gas. The cubic foot of air weighing 1.2 oz. suppose the gas to be  $\frac{1}{14}$  this weight, the difference is 0.8 oz., which, multiplied by 167,000 gives 8350 lbs. for the force, to gain elevation and carry the passengers. Now, 25 men (17 crew and 8 passengers) at 140 lbs. each, weigh 3,500 lbs., hence the machine must weigh less than the remaining 4850 lbs.\*

whose base is 1 foot, and height fallen through to acquire the velocity, which height is  $\frac{1}{2 \times 32.2}$  of the vel.<sup>2</sup> in feet; hence the whole pressure is the pressure on each square foot,  $\times$  by the square of its vel., and the vel. of each point of surface is the angular vel.  $\times$  by the dist.: in notation, putting  $\omega$  the angular vel.,  $\rho$  the density of the air,  $g$  gravity or 32.2 ft. and  $f$  for sum  $\therefore$  the whole pressure on the wing is

$$\frac{\omega^2 \rho}{2g} f \text{ (each sq. foot } \times \text{ sq. of its dist. from the axis.)}$$

In the figure of the wing proposed, the quantity under  $f$  will be found not far from 1442, in feet, which  $\times$  by  $(1.3)^2$  or  $\omega^2$  gives  $\frac{2541\rho}{2g}$ ; but the wing going backwards as often as forwards, only half this takes effect, then  $\times$  ing by 8, the number of wings, gives the impressed force on all the wings =  $\frac{9804\rho}{2g}$

Now the machine will move uniformly through the air when the resistance on it is equal to the force on all the wings. Suppose, for shortness, the resistance on the rounded end is only  $\frac{1}{2}$  that on the section A of 1,570 ft. when moving

with the vel.  $v$ , the resistance is then  $\frac{\frac{1}{2} A v^2 \rho}{2g}$  which equated with  $\frac{9804\rho}{2g}$  gives

$v = 3\frac{1}{2}$  ft. per second, or  $2\frac{1}{2}$  miles per hour. But the wings offer considerable resistance during the back stroke, and the machine besides sets in motion an enormous quantity of air, which it draws after it; we suppose the velocity will thus be reduced to less than half.

\* It is generally believed that the power of a balloon may be increased without limit by increasing the size. This error has arisen from overlooking the *tension*, or effort of the gas, in the rare atmosphere of great elevations, to burst the balloon, an accident which has often happened to small balloons. Suppose the balloon spherical, for simplicity, the tension of the surface



It is surely to be regretted that the aeronautical society have made no effort to confirm the estimation in which they are held by the public, by inserting some few matters of calculation among the promises in their prospectuses, which many complain of as having too much the air of puffs, being composed, perhaps, by the bellows-blower to that windy body corporate.

Secondly, the paddles, of which there are four on each side, are expected to effect a velocity through the air of 5 miles an hour. According to our calculation on estimated data, (for no such particulars have been laid before the public,) and which are given in a note below,\* the result is more in accordance with our less flighty imagination, and does not authorize us to guarantee to travellers a velocity of one mile—all and sundry vagaries of the tail notwithstanding.

We may just observe, on account of some misconceptions which seem to prevail on the subject, that, when the balloon is once off the ground, it moves along with the same velocity as the wind, being, as respects motion, one and the same thing with the air that floats it; hence, however strong the wind blows, it makes no difference to the balloon, which is in a state of calm, and oars or wings can in no case whatever have any effect in retarding or urging the balloon, unless they are moved by extraneous force. When such force, therefore, is proposed to be employed, the use of it consists only in giving the balloon a motion through the air in one direction, while the whole mass of air itself is moving in another, and the *course made good* by the balloon is composed of the two motions.

It is proposed to regulate the Eagle's course by ascending or descending till a favourable current of air is met with; such currents, however, do not always exist.

from a normal pressure  $p$  on the unit of surface, as from an elastic gas, is  $2pr$ , ( $r = \text{rad}$ ). Before the balloon comes to its full stretch, there is always equilibrium between the pressure of the atmosphere from without, and that from the elasticity of the gas from within; this last force being quite independent of the effort to rise. Let  $c$  be the weight of the column of mercury on the unit of surface at the height where the balloon comes to its tension,  $c'$  that at a greater elevation; the tension,  $T$ , is now  $2(c - c')r$ ; since  $T$  supports the difference between the internal and external normal pressures. Now, the strength of the material is as  $t$ , its thickness, and this must be as  $T$ , or as  $r$ ; also the weight is as  $r^2t$ , hence the weight must be as  $r^2T$ , or as  $r^3$ ; that is, after a certain limit the weight of the balloon itself must increase with the quantity of gas.

\* In the aerial ship, the upper and lower wings work alternately with each other, and thus they move backwards and forwards with equal velocities. This arrangement, which may be the most convenient for work, is not, as appears above, the best for flying. If one pair of wings were made to move forward in half the time it moves backwards, it would produce a far greater effect than another pair of wings, and two pair might be made to do more work than four.



With regard to the "crew of 17," on whose skill and firmness the passengers and their trunks so much depend, we have no doubt that none but A.B.'s are entered on the books, and that they are men of experience in air, having breathed it all their lives, and acquainted, therefore, with all the ups and downs of such a life, and that they will be as perfect in their duty as any sailor can be expected to be who learns to steer when the ship is moored—fellows too, of stout nerve, who, if the vessel was to "turn the turtle" with them in the upper regions, would think as little of the incident (after entering it in the log, and turning their quids to the same side as before,) as the crew of the Yankee clipper did when she made a somerset in the night so quietly, that it was known in the morning only from all the hammocks having taken a turn in the clues.

But another airy philosopher appears on the stage. He, considering, doubtless, that the Eagle had done nothing (beyond the said flight in the waggon) to establish any claim to the title of the king of birds, set his inventive genius to work, and produces the prosperous idea of employing *eagles themselves*; he proposes, in short, to promote these aerial vagabonds to beasts of draught. Also, in accordance we presume with the ancient principle of making punch, (namely, that it should contain ingredients the most dissimilar possible, as sour and sweet, strong and weak,) he has judiciously diluted the ferocity of his team, by introducing the proper proportion of pigeons. The vessel first to have the honour of being led like the Roman armies, is called the Zephyr, and is represented in detail, with the eagles and pigeons all on the *same tack*, and flying with wonderful good humour and regularity—a system of harmony whose counterpart may be seen every day on the south side of Waterloo-bridge, where a man exhibits, in one large family cage, cats, mice, birds, rats, &c. and which nothing seems likely to disturb, except the one circumstance of the eagles taking it into their heads to eat the pigeons. We have not been so fortunate as to meet with the author's system of "training," a matter we should think of some nicety, especially with a gentleman who has always been used to have things so very much his own way, in this respect, as the eagle. But the idea of pressing fowls into the service is by no means new. Lord Bacon tells us, that the Leucadians proposed to fly a man, duly feathered for the occasion, by means of fowls of strong wing. The difficulty which, perhaps, the good Leucadians experienced, no less than our more enlightened selves, was getting the birds to go *their way*. Now, the idea we are going to propound is a modification of one that has already been found to answer, and solves the difficulty.

We recollect to have read in a book of travels in Ireland, that the natives of that country adopt a very ingenious mode of drawing their horses along, when they refuse to be driven; they put a wisp



of hay on the pole just out of their reach, in virtue of which the horses stretch first a neck, then a leg, then another leg, and so on, till they fall by degrees into a very comfortable trot. Now, there is nothing further required than harnessing the pigeons just out of reach of the eagles, and the thing is done; for, on the one hand, we have the lofty bosoms of the eagles animated by one undivided sentiment, viz. the determination by every lawful means to get hold of the pigeons; on the other, the pigeons, (who can go, by the bye, 100 miles an hour for amusement,) flying for their lives. We have, indeed, no data for satisfying learned curiosity as to the value of the universal tuggings expressed in pounds avoirdup.; but it is quite evident they would be prodigious; and as to the duration of the journey, that being determined by the time a hungry eagle thinks it worth his while to chase a plump pigeon, or a pigeon to fly for his life, would be quite as long as a gentleman would feel disposed to hold the "ribbands."

The team would obviously be under the easiest of all government, for, as it would be all the same to the eagles which way they went, as long as they were "tail an end" after the pigeons, or to the pigeons, if they were going straight from the eagles, the driver would have it all his own way. Should the eagles, however, from fatigue, or grief at the degradation of their glorious energies in being obliged to drag about such miserable lumber, slacken their efforts, a little "veering" of their traces, which might enable them to snatch the trophy of a feather from the tails of their "seconds a-head," would reanimate the party; but such a whet could scarcely be wanted in an atmosphere that gave Dr. Crosbie (who was blown off the east coast of Ireland, and fell, balloon and all, into the Bristol Channel,) an appetite for his cold collation, when up to his neck in water, and frightened out of his wits into the bargain.

Surely that active body, the Zoological Society, will not let this opportunity pass of aiding "the march;" a few eagles would be enough to try at first, and they could hire the pigeons by the day from the Red House.

This employment of the *predatory energies* of animals as a moving force, which is as stirring a desideratum among mechanics now, as a new pleasure was to the Roman emperor, is not only the most rational and least troublesome of any yet proposed, but it is also the cheapest, since the object is not to keep the cattle sleek and well fed, but simply as hungry as possible. The application also is general, and we feel confident that the time is at hand when our hard-working seamen, instead of gaping at shoals of idle sharks, dolphins, and whales, will, by the help of a piece of pork on the dolphin striker, borrow their services for a few hours, and that the "harness" will be kept triced up in the fore-chains of every well-found ship. At present, however, we may be content, for, next to being fired out of a mortar, a rail-road is, perhaps, as



expeditious a way of moving along as a gentleman can expect for his money.

But amongst the several projects daily set afloat in this age of intellect and gin, we do not find any one so behind-hand as to to advocate flying by wings; an art of which Bishop Wilkins, who wrote about the time of Charles II., felt so confident, was on the high road to perfection, that he said it would soon be as common for a gentleman to call for his wings as his boots. The reader will find this matter pretty well set at rest in a note by M. Navier to a Report on a proposal for flying, submitted to the Institute of France.\* The following are among the most curious and interesting results deduced, and though, from our imperfect knowledge of the theory of fluids, they are not strictly true, they are definitive as to the general conclusions.

It results from the investigation, that the force exerted by a common-sized swallow, in hovering over the same place, would be sufficient to raise him through 26 feet in one second; that in hovering, the bird makes 23 strokes of the wings in a second; and that the wing is struck downwards in half the time that it is raised, and that, without some considerable inequality in these exertions, the bird would be unable to sustain himself.

In flying horizontally at the rate of 30 miles an hour, the force exerted is sufficient to raise him 1,280 feet in 1 second, the number of beats in a second is increased to 35, and the time of the depression of the wings is 14 times less than that of its elevation, and the faster the bird flies, the greater must this disproportion become. It is less exertion for the bird to sustain his flight in a rare than in a dense atmosphere, and hence birds of passage fly high. Humboldt states having seen the condor above the tops of the highest Andes.

In a similar investigation of the forces required to be exerted by a man to hover, it appears that, even if he were able to concentrate into the short space of five minutes, the whole force he employs on an average for eight hours continually, he could only sustain himself for so long; but as hovering is, therefore, impossible for more than a few seconds, the case of flying is still worse, and therefore all such projects must be considered as chimerical until a new moving force is discovered.

Our conclusion is shaded with regret. It is rumoured, concerning the aerial ship, that an unkind wind has "propelled" the wonderful machine to *limbo*; that the chill gripe of the law has nipped in the bud the unearthly "communication between the capitals of Europe;" that the "air visions" have left not a rack behind; and that, in short, unless the aeronautical society (and in no other quarter have we the faintest hope) come down with the ready, the last of the aerial ships will never again show her head above water.

\* Mém. de l'Institut. 1832.



TABLE XX.

*For reducing Chinese feet to English feet, and English feet to Chinese feet.*

1 Chinese foot = 1·0049003 English foot.

1 English foot = 0·9951136 Chinese foot.

Chinese or English Ft.	English Feet and Dec. parts.	Chinese Feet and Dec. parts.	Chinese or English Ft.	English Feet and Dec. parts.	Chinese Feet and Dec. parts.	Chinese or English Ft.	English Feet and Dec. parts.	Chinese Feet and Dec. parts.
1	1·005	0·995	39	39·191	38·809	77	77·377	76·624
2	2·010	1·990	40	40·196	39·805	78	78·382	77·619
3	3·015	2·985	41	41·201	40·800	79	79·387	78·614
4	4·020	3·980	42	42·206	41·795	80	80·392	79·609
5	5·025	4·976	43	43·211	42·790	81	81·397	80·604
6	6·029	5·971	44	44·216	43·785	82	82·402	81·599
7	7·034	6·966	45	45·221	44·780	83	83·407	82·594
8	8·039	7·961	46	46·225	45·775	84	84·412	83·590
9	9·044	8·956	47	47·230	46·770	85	85·417	84·585
10	10·049	9·951	48	48·235	47·765	86	86·421	85·580
11	11·054	10·946	49	49·240	48·761	87	87·426	86·575
12	12·059	11·941	50	50·245	49·756	88	88·431	87·570
13	13·064	12·936	51	51·250	50·751	89	89·436	88·565
14	14·069	13·932	52	52·255	51·746	90	90·441	89·560
15	15·074	14·927	53	53·260	52·741	91	91·446	90·555
16	16·078	15·922	54	54·265	53·736	92	92·451	91·550
17	17·083	16·917	55	55·270	54·731	93	93·456	92·546
18	18·088	17·912	56	56·274	55·726	94	94·461	93·541
19	19·093	18·907	57	57·279	56·721	95	95·466	94·536
20	20·098	19·902	58	58·284	57·717	96	96·470	95·531
21	21·103	20·897	59	59·289	58·712	97	97·475	96·526
22	22·108	21·893	60	60·294	59·707	98	98·480	97·521
23	23·113	22·888	61	61·299	60·702	99	99·485	98·516
24	24·118	23·883	62	62·304	61·697	100	100·490	99·511
25	25·123	24·878	63	63·309	62·692	200	200·980	199·023
26	26·127	25·873	64	64·314	63·687	300	301·470	298·534
27	27·132	26·868	65	65·319	64·682	400	401·960	398·045
28	28·137	27·863	66	66·323	65·677	500	502·450	497·557
29	29·142	28·858	67	67·328	66·673	600	602·940	597·068
30	30·147	29·853	68	68·333	67·668	700	703·430	696·580
31	31·152	30·849	69	69·338	68·663	800	803·920	796·091
32	32·157	31·844	70	70·343	69·658	900	904·410	895·602
33	33·162	32·839	71	71·348	70·653	1000	1004·900	995·114
34	34·167	33·834	72	72·353	71·648	2000	2009·801	1990·227
35	35·172	34·829	73	73·358	72·643	3000	3014·701	2985·341
36	36·176	35·824	74	74·363	73·638	4000	4019·601	3980·454
37	37·181	36·819	75	75·368	74·634	5000	5024·501	4975·568
38	38·186	37·814	76	76·372	75·628	6000	6029·402	5970·682



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**THE LIFE OF ADMIRAL VISCOUNT EXMOUTH.** By Edward Osler, Esq. London, Smith, Elder, and Co.

This is one of the most important works that has been added to the annals of our navy. From his boyhood, Lord Exmouth was an extraordinary personage. Ever full of adventure and daring, he gave early proof of all that he realized in after life. Gifted by nature with a constitution well calculated to undergo the severities of a sea life, it was his happiness to possess a mind no less gifted with higher qualities: and while the former placed him among the first in arduous and severe duties, the latter endeared him to those whose lot it was to share them with him. It was the good fortune of England to number Lord Exmouth among her naval defenders at one of the most critical periods of her history, a period which gave him ample opportunities for the display of the powerful energies of his mind, and to take that active part in the command of her ships, for which he was in every way so well calculated. For whether we contemplate him as a midshipman, taking his share in the council of General Burgoyne after a long and difficult campaign, or as an admiral directing the bombardment of Algiers, we see that cool and intrepid heroism, that skill and bravery, which were the peculiar, leading features of his naval career. To very many of our readers, much of the history of Lord Exmouth is well known from experience; there are those left among us yet, who remember his treatment of the culprit at Newfoundland—his gallant deeds while in the command of his several ships—the electric effect it produced when he was suddenly found at the weather maintopsail yardarm, in a gale of wind, rallying his men to their dangerous work—the extraordinary circumstance of the captain of a man-of-war diving under his ship's bottom to ascertain its condition—his firm and determined conduct, which contributed to the destruction of the *Droits de l'Homme*—the cool and masterly manner in which he saved his own ship from mutiny, at a crisis when, by spreading rebellion through our land, the enemies of England were sanguine of her ruin;—there are yet those, we say, who can look back over these and many other noble deeds, besides the string of events which followed in the East, and the closing victory of his arms at Algiers, and, turning from the retrospect with the full glow of honest pride, can aver that England may justly boast the name of Exmouth, while as patriots they can rejoice that his services were in her cause. We shall reserve ourselves for some extracts hereafter from this valuable work—it is not one that is likely to pass hastily away from the literature of the present day; for if we mistake not, we see in it ample material to establish it, like the life of Nelson, as another beacon for the guidance of spirits like his. For the present, we will only observe, that an unceasing activity and energy of mind appear to have been the secret springs from which Lord Exmouth drew all his successes; those rare and invaluable qualifications, which in every walk of life, but more particularly in the navy, are sure to bring honour, if not distinction. No man was ever yet great, but who possessed a more than usual energy of mind, of which there is no better instance than that of Nelson; and Lord Exmouth implied as much when he once said, on returning thanks for his health being drunk, "I have never known what fortune meant. I never chose my station, and never had a friend but the King's pendant; but I have always gone where I was sent, and done what I was ordered; and he who will act on the same principles may do as I have done."



AN ACCOUNT OF THE REV. JOHN FLAMSTEED, *the first Astronomer Royal*. Compiled from his own Manuscripts and other authentic documents, never before published. By Francis Baily, Esq. V. P. R. S. Printed by order of the Lords Commissioners of the Admiralty.

We met with the account somewhere the other day, of a coarse earthen pot being found by some labourers who were employed in stubbing up an old hedge on a gentleman's estate, which earthen pot contained a large quantity of old silver coins, bearing the inscription of King Charles and King James. But such discoveries are common enough; relics rich and rare, belonging to the olden time, are thus frequently brought to light, and much in the same way have the papers been discovered which have enabled Mr. Baily to give us this account of Flamsteed's life; one that in real worth and interest far surpasses all the coins or antiques ever yet disturbed from their secluded hiding-places. Many of the papers were found in an old chest in a house in Tavistock-place, and the rest on the dusty shelves of the Royal Observatory, and now united form a work which will fill up what has long remained a blank in the biography of the first astronomer-royal of England, the Rev. John Flamsteed. The work, to which is prefixed an elaborate and well-written preface by Mr. Baily, consists of an account of his own life by Flamsteed, and a large collection of his correspondence with several eminent persons of his day, among whom are, Sir Isaac Newton, Sir Christopher Wren, Mr. (afterwards the celebrated Dr.) Halley, and others; from which we obtain an insight to many very curious, and, to our naval readers, interesting particulars. We shall select one or two here, promising to return to the work in a future number.

*Warrant for Building the Observatory.*

"CHARLES REX.—Whereas, in order to the finding out of the longitude of places, for perfecting navigation and astronomy, we have resolved to build a small observatory, within our park at Greenwich, upon the highest ground, at or near the place where the castle stood, with lodging rooms for our astronomical observator, and assistant; our will and pleasure is, that according to such plot and design, as shall be given you by our trusty and well-beloved, Sir Christopher Wren, knight, our surveyor-general of the place and scite of the said observatory, you cause the same to be framed in, built and finished with all convenient speed, by such artificiers and workmen as you shall appoint thereto, and that you give order unto our treasurer of the ordnance for the paying of such materials and workmen as shall be used and employed therein, out of such monies as shall come to your hands for old and decayed powder, which hath or shall be sold by our order of the 1st of January last, provided that the whole sum so to be expended and paid shall not exceed five hundred pounds; and our pleasure is, that all our officers and servants belonging to our said park, be assisting to those that you shall appoint for the doing thereof: and for so doing this shall be to you, and to all others whom it may concern, a sufficient warrant. Given at our court at Whitehall, the 22d day of June, 1675, in the 27th year of our reign.

"By His Majesty's command,

"J. WILLIAMSON.

"To our right trusty and well-beloved counsellor,  
Sir Thomas Chicheley, Knight, Master-General  
of our Ordnance."

*Warrant for the Payment of Mr. Flamsteed's Salary.*

"CHARLES REX.—Whereas, we have appointed our trusty and well beloved John Flamsteed, Master of Arts, our astronomical observator, forthwith to



apply himself with the most exact care and diligence to the rectifying the tables of the motions of the heavens, and the places of the fixed stars, so as to find out the so-much-desired longitude of places, for perfecting the art of navigation; our will and pleasure is, and we do hereby require and authorize you, for the support and maintenance of the said John Flamsteed, of whose abilities in astronomy we have very good testimony, and are well satisfied, that from time to time you pay the yearly salary or allowance of one hundred pounds per annum, the same to be charged and borne upon the quarter-books of the office of the ordnance, and paid to him quarterly, by even and equal portions, by the treasurer of our said office; the first quarter to begin and be accounted from the feast of St. Michael the Archangel last past, and so to continue during our pleasure. And for so doing, this shall be as well unto you, as to the auditors of the exchequer, for allowing the same, and all other our officers and ministers whom it may concern, a full and sufficient warrant. Given at our court at Whitehall, the 4th day of March, 1674-5.

“By His Majesty’s command

“J. WILLIAMSON.”

“To our right trusty and well-beloved councillor,  
Sir Thomas Chicheley, knt. master of our ordnance, and to the lieutenant-general of our ordnance, and to the rest of the officers of our ordnance, now and for the time being, and to all and every of them.”

#### CAPTAIN BACK.

The return of this enterprising officer from his search for Captain Ross is already known to our readers, and we will now proceed to lay before them a brief account of his proceedings in search of geographical discovery; for the news that Captain Ross was again in England, had reached before he set out from his winter-quarters. This, however, he did from Fort Reliance, on the 7th of June, 1834, and was occupied a month in transferring his party and boats, by means of rollers, across a tract of country for about 200 miles, in order to embark on the Thleweechodezeth, a river which it had been expected would convey him to the sea in Bathurst inlet. It was not before 7th July that he embarked on this river, with the surgeon of the expedition, Mr. King, and eight Europeans, and took leave of the rest of the party.

Captain Back says, the stream was at first deep, and interrupted by rapids, as it cuts its way transversely through a mountain range running east and west; but beyond this it proceeded to the northward, with little interruption, till in lat.  $65^{\circ} 40' N.$ , long.  $106^{\circ} 35' W.$ , it took a sudden turn to the east, thereby destroying the hopes up to this time entertained of its entering the sea near Bathurst inlet. It now became very broad, and broken as it were into a succession of small lakes, terminating in one so large that it shewed a clear horizon on several points of the compass; and here the expedition was much embarrassed by ice, so that for above twenty miles it was only enabled to advance by severe exertion. On recovering the clear water, however, the stream speedily again contracted, still trending easterly, and even south-east, and much broken by rapids and cascades, until at length, in lat.  $65^{\circ} 54' N.$ , long.  $98^{\circ} 10' W.$ , (not far therefore from the head of Wager Bay,) it burst with great fury between four granite mountains, and flowed thence tolerably directly towards the north. It also here became again very wide, from half a mile to a mile, and was even more broken with rapids and whirlpools than before; the adjoining country being in like manner rugged and hilly.

The day before the party reached the sea, some Esquimaux were met for the



first time, employed fishing at the foot of a fall. These people immediately placed themselves in attitudes of defence; but the ready approach to them of Captain Back, unarmed, immediately gained their confidence, and they were of use to him afterwards in assisting his boat and things across the portage which he was obliged to make. They reported that the sea was not far off; and on the 29th July Captain Back had the satisfaction of finding it in lat.  $67^{\circ} 7' N.$ , long.  $94^{\circ} 40' W.$

The view from the mouth of the river was bounded on each side by a narrow estuary, full of shoals and sandbanks, and a lofty headland (named afterwards "Victoria") partly intercepted it. This headland belonged to the eastern mountains. The shores of the estuary gradually receded from each other; that of the west assuming a direction to the north and west, while the eastern trended to the eastward of north-east.

A day's labour convinced Captain Back that his progress along the eastern shore was hopeless, and he therefore made for the opposite: satisfied that he was to the eastward of Ross's Pillar, (or James Ross's Furthest, of the Admiralty chart,) he determined to approach it as near as possible. He penetrated as far as lat.  $68^{\circ} 45'$ , in long.  $96^{\circ} 22'$ , with much difficulty, on account of the drift ice packed on the shore, and the violent gales of wind that set it so frequently in motion. From this point a clear horizon was seen in the N.N.W.; due north two large blue objects were seen, supposed by Captain Back to be islands; in the north-east was water and ice, and a water sky beyond; in the east was a clear sea, with one small island, about twenty miles distant; east-by-south, and to the southward of east, to the eastern land was clear open sea. From the point he had reached, Captain Back also found the current setting from the westward of north, and found some pine wood, which, from the species being common on the banks of the M'Kenzie, rendered it probable that it came from that river.

Having concluded his observations, and a difficult journey before him to return to his winter-quarters, Captain Back very properly decided on returning, and left this point on the 15th August. Previously, however, he ascended the highest hill he could find near it, to obtain as extensive a view as he could, and was pleased to find the accounts given him by the Esquimaux correspond so nearly with the truth. And we are now left to our own opinions as to whether the land of Captain Ross is not after all an island, and not the north-east extreme of North America. There are so many corroborating circumstances, that there can scarcely be but one opinion of the matter.

The departure of Captain Back on his return had not been premature, for already had the ice formed in the Thlewcwechodezeth so strongly as to induce him to forsake his boat, which had suffered not a little, and to trust, with his party, to snow shoes. A good supply of provisions enabled them to withstand this additional fatigue, and they reached Fort Reliance on the 27th September, after an absence of three months. Captain Back lost no time in finding his way home by New York, the nearest route, and his party having proceeded to Hudson's Bay, will return about the middle of November, the time of the arrival of the first ships belonging to the Company.

We may now mention a few words on the result of this expedition, which has excited rather than satisfied our curiosity; and we must refer our readers to the polar chart at p. 267 of our last volume, to follow our meaning. By Capt. Back's position of the mouth of the river due south of the Boothian isthmus, it is evident that the sea extends further west than there laid down according to Captain Ross, and the probability is that the whole coast, from Cape Turnagain to the southern shore of Prince Regent Inlet is connected, the positions laid down by Captain Back in his last expedition lying about midway between them.



The coast being thus connected south of Capt. Ross's Land, a sea being fairly found with a tide from the westward, if there were any doubt that it was nothing more than a series of islands found by that officer, it would be at once removed by the fact that Captain James Ross, when he reached that part of the coast which is called Ross's Furthest, actually crossed over a strait, leaving islands to the south of him on his left, which islands may be those seen by Capt. Back due north of him when he was at his furthest northern point. We shall, however, wait the appearance of Captain Back's narrative, and we believe this will be no great stretch of our patience, for it is not to come out in the shape of a huge quarto, after many months; but it is impossible to look at the general result of his search, and consider the important addition he has made to our geographical knowledge of that interesting portion of the northern regions, with such trifling means, without expressing our hopes that a little pocket expedition (that is, one on a small scale) may dash out there next year, and tell us the extent of loss which British North America has suffered by this extensive inroad of the sea, so unexpectedly found where all was supposed to rejoice in the security of *terra firma*. We shall not stay to point out the track, but we have no doubt that if a couple of boats were landed at Repulse Bay, and transferred across the isthmus, one of them taking a westerly course along the south shore of Prince Regent's Inlet, and the other along the western shore of Melville Peninsula towards the strait of the Fury and Hecla, that the matter would be set at rest in a few weeks; and who would be so fit to command as Captain James Ross and Commander Back?

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EARTHQUAKE—JUAN FERNANDEZ, 28th February, 1835.

Our readers will find, in page 502, No. 42, some account of the late earthquake at Concepcion, which appears to have extended to this island:—

“By the ship *Cyrus*, Captain B. R. Hussey, put into this port for water, I take the opportunity of sending you these few lines, to inform you of the great calamity that has befallen this island by an earthquake on the 20th inst., which occasioned an irruption of the sea that entirely swallowed up the houses in the port. Only three have escaped, on account of their being built on an elevated situation; and luckily one of them is the storehouse, and our provisions have escaped. I was, at the time the sea began to rise, on the walls of the castle, giving directions to some men that were building a barrack for my troops, and observed the mole nearly covered with water. As that never happened before, I descended from the castle, and ordered the boats to be secured. Whilst so occupied, the sea began to retire with great velocity to about the distance of 200 yards, leaving the greatest part of the bay dry, and then I heard a most tremendous explosion, and the earth shook violently. I ordered the alarm-bell to be rung, and I succeeded in dragging the boats to the foot of the castle, when the sea returned, and in a few minutes covered the town; and on retiring, carried with it the houses, trees, animals, and one man and woman, leaving not a vestige, excepting three houses, and the roof of mine and the commandant's of the troops. Shortly after the explosion, I saw a large column of smoke ascend in a rapid manner, and volcanic eruptions appeared at intervals in the same direction. After the sea became quiet, I launched the boat, and was fortunate enough in saving the lives of both the individuals, as they kept themselves afloat on some beams, but were sorely bruised. I recovered some few articles of furniture, but lost almost every thing else; however, thank God it was no worse, for, had it happened during the night, scarcely a soul would have escaped. I have examined the place where the volcano was, but have not found any alteration or soundings.”

“T. SUTCLIFFE.”



**M. BLOSSEVILLE.**—The fate of this unfortunate officer and his crew, in the *Lilloise*, is now, we fear, sealed beyond all doubt. The return of the *Recherche* from an unsuccessful search appears to have put an end to all hopes of finding even a vestige of the *Lilloise* or her crew. In a former page (437, No. 41) we alluded to the departure of the *Recherche*, and the reward offered by the French government as an encouragement to any one to persevere in their attempts at discovering the fate of the *Lilloise*. The *Recherche* reached the coast of Iceland on the 7th of May, and M. Trehouart, her commander, used every exertion to discover any account of the lost vessel. A vague report reached him, that she had been seen to go down off North Cape of Iceland, but, on tracing it, M. Trehouart found it destitute of all foundation. Having examined the coasts of Iceland, and made every inquiry both from the merchants on the island, and the masters of the whaling ships which he met with, for information concerning the fate of the *Lilloise*, M. Trehouart failed in obtaining any, and was assured that if she had foundered off the coast, the circumstance would have been known. He then proceeded to the edge of the ice on the coast of Greenland, which he reached in July. There he was equally unsuccessful in his search, and the *Recherche*, after encountering much difficulty among the ice, without being able to reach the coast in any part, again visited Iceland, and left Reikiavik on the 1st September for Cherbourg, where she arrived on the 13th. There is little doubt left, that the *Lilloise* has become locked in the ice. In July 1833 she was in latitude  $68^{\circ} 30'$ , and having visited Iceland afterwards, left that island on the 4th August following, for the same latitude on the coast of Greenland, from whence M. Blossville intended to trace the coast to the southward. Since that date she has never been heard of.

**PROPOSED LIGHT-VESSEL.**—The plan of a light vessel on the principle of a cone has been submitted to our notice, one that certainly has altogether a fine castellated appearance, and raising the light, as it does, some thirty or forty feet above the surface of the water, would seem to place it in a most desirable situation, while at the same time it affords ample accommodation and protection to those whose business it would be to attend it. The inventor proposes to place it at the Goodwin and some other sands, where it is desirable to have a long view of the light. Now, had we not known that the inventor is a mariner, aye, a master mariner of the port of London, too, we could scarcely have credited that a person of any experience of the sea could have produced such a thing. In the first place, the violent motion it would have would render it scarcely possible to live on board of it; in the next place, by being moored from the centre of the bottom (which, by the way, is of conical form,) the effect of the tide would be to keep it always at an inclination, which would be most fearfully increased when this same tide happens to be setting to leeward; and, in the next place, if in the midst of the violent and incessant tugging and floundering about which it would undergo, it should happen to break adrift in a gale of wind, what would become of the unhappy crew? Why, as they have no means of shewing “a stitch of canvass,” to use a common phrase, away they must go where wind and sea chooses to take them. Query, would the inventor like to be with them? We are sorry thus to throw cold water on his invention before it has even seen salt water, and we are equally sorry to see so much pains and trouble so unworthily bestowed.

The *Vanguard*, of 80 guns, was launched at Pembroke yard, by T. F. Hawkes, Esq., Master Shipwright, on the 25th of August, 1835. We have reserved some particulars about her for our next.



## COURT MARTIAL.

A court-martial, composed of Rear-Admiral Sir F. L. Maitland, K.C.B., (President,) Captains Lord Adolphus Fitzclarence, G. R. Lambert, E. Williams, and Thomas Hastings, with James Hoskins, Esq. Judge Advocate, was held on board the Victory, in this harbour, to try Dr. George Mc. Diarmid, late surgeon of the Algerine, for acts of drunkenness and un-officer-like conduct; when the court delivered the following sentence:—The court is of opinion that the charges against Dr. George Mc. Diarmid, have not been proved, and doth acquit him of the same; and he, the said Dr. George Mc. Diarmid, is hereby acquitted accordingly.—*Hants. Tel.*

We find that Mr. Buckingham has given notice that he will move for a select committee next session, to inquire into the defective state of the construction and equipment of the Merchant Shipping of the kingdom; with a view to ascertain how far the loss of life and property, occasioned by the frequent shipwrecks that occur, is attributable to such a cause; and, also, whether any existing laws or usages contribute to encourage such defective construction and equipment; and whether the same ought not to be abrogated and repealed. And we also find that it is his intention to move for a select committee to inquire into the operation and effect of the Merchant's Seamen's Registration Bill, as passed in the present session of parliament, with a view to ascertain whether its practical working affords any reasonable prospect of its accomplishing the object with which it was enacted, namely, to provide the means of insuring a full, constant, and regular supply of seamen, in time of need, for his majesty's navy, without recourse to the unjust, cruel, and unconstitutional practice of forcible impressment. We would direct Mr. Buckingham to an article on merchant ships' discipline in our present number, and to another on registration in our last.

*To the Editor of the Nautical Magazine.*

Customs, Hull, 12th Sept. 1835.

SIR,—As a subscriber and an admirer of your excellent magazine, I beg to forward (not knowing that I am out of course in so doing) a "Synopsis of the Royal Yacht Squadron" at Cowes, which I have lately met with; and if it should come within the limits of your rules to insert the same, or any part, in the next Nautical Magazine, you will greatly oblige me.

I remain, Sir, with due respect, your obedient servant,

H. W. R.

*Synopsis of the Royal Yacht Squadron, Cowes.*

On the 1st of June, 1812, a meeting of several of the nobility and gentry was held at the Thatched House Tavern, London, for the purpose of constituting a club, to be called the "Yacht Club," which had for its object the improvement of naval architecture, and the opening of a wider field for navigation and seamanship. The Right Hon. Lord Grantham (now Earl de Grey) was called to the chair, and upwards of forty persons were present, who were constituted original members of the club. After forming various rules and regulations, the meeting adjourned. The distinguishing flags of the club were, a white ensign, with the union in the corner, and a plain white burgee. John Ward, Esq. Collector of Cowes, was appointed secretary and treasurer.

In 1816, officers in the Navy were made eligible as honorary members. In the following year the club increased in importance, as his late Majesty (then Prince Regent) became one of its members. In 1820 his late Majesty Geo. IV.



was graciously pleased to take the club under his special patronage and protection, and conferred upon it the title of "Royal;" and the vessels of the Royal Yacht Club were admitted by courtesy into the ports of France free of tonnage dues. In the following year, their Royal Highnesses, the then Dukes of Clarence and Gloucester, became also members of the club, and the red ensign and a small red burgee were substituted as the distinguishing flags of the Royal Yacht Club, in lieu of the white. On the 8th and 10th of Aug. 1833, the royal squadron, under the command of Rear-Admiral the hon. Sir C. Paget, honoured the Regatta at Cowes with its presence, which greatly increased the beauty and interest of the scene. In 1824, the letters RYC, and a crown and foul anchor, were added to the red burgee, which then formed the distinguishing flag of the club. In 1826, Mr. Ward having been appointed Collector at Dover, resigned the secretaryship, and Richard Stephens, Esq., Tide-surveyor at Cowes, was appointed to the vacancy. In 1825, the Royal Yacht Club engaged the house they at present occupy on the Marine Parade, West Cowes, as their rendezvous. In 1827 Holland, following the example of France, granted the privilege to the club to enter her ports free of dues. In the following year, Lord Deerpur, now Earl of Coventry, presented the club with a battery of six guns. In 1829 Norway and Sweden were also pleased to grant to the club the same privileges as France and Holland, and the Lords of the Admiralty conferred on it the honourable distinction of wearing the St. George's ensign, a white burgee with the St. George's cross, and a crown in the centre, was then substituted, and still continues the distinguishing pendant of the club. In 1830 his present Most Gracious Majesty signified his will and pleasure to become the patron of the club, which was gratefully acceded to. In 1833 his Majesty was further pleased to distinguish the club with his special favour, and conferred on it the title of "*Royal Yacht Squadron*," with the request that it should be distinguished by that title for the future. Since that period the foreign powers generally have granted by courtesy the privilege to yachts belonging to the squadron of entering their ports free of all dues and duties. In 1834 Richard Stephens, Esq. having been appointed collector of his Majesty's customs at St. Ives, resigned the secretaryship, and John Bates, Esq. of the royal navy, was appointed as his successor. The officers of this squadron are—

Commodore .....	Lord Yarborough.
Vice-Commodore .....	Earl of Belfast.
Librarian, .....	Capt Armar Lowry Corry, R.N.
Secretary .....	John Bates, Esq. R.N.
Treasurers, Sir Richard Bassett, Knt. Charles Bassett Roe, and Thomas Blashford, Esqs. }	Bankers at Newport, Isle of Wight.
Chaplain .....	Rev. Samuel Keat.
Surgeon .....	Charles Day, Esq.
Honorary Surgeon .....	W. H. Bankes, Esq.

There are at present belonging to the squadron 142 members, of whom three are dukes, four marquesses, eleven earls, one viscount, nine lords, the First Lord of the Admiralty, seven honourables and right honourables, thirteen baronets, one knight, three reverends, and eighty-nine gentlemen of fortune. Also 465 honorary members, of whom fifteen are civilians, thirteen admirals, twenty-three vice-admirals, twenty-nine rear-admirals, and 385 captains and commanders, royal navy. There are 103 yachts, amounting in tonnage to 9,245 tons, of which there are two ships, four brigs, one ketch, two brigantines, two luggers, nineteen schooners, one yawl, and seventy-two cutters, forming a nursery for, and giving employment to 1038 seamen.



The yachts are in the habit of visiting the various ports in Europe and their structure, capabilities, &c. have excited universal admiration, and it has been a source of surprise and gratification in all quarters to see noblemen and gentlemen of the first rank and fortune in the country devoting their time and property to the study and promotion of naval tactics and architecture. Extensive improvements, and discoveries in the science of navigation, and several literary works of high character, have emanated from many of its members. The squadron possesses a valuable library of nearly one thousand volumes, furnished principally by voluntary donations of its members, and to which her Royal Highness the Duchess of Kent has most liberally contributed.

#### BILL FOR SETTLING TONNAGE UPON A NEW SYSTEM.

See Vol. lii. p. 149, N. M.

A bill has been brought into Parliament, and has passed the Commons, for regulating the tonnage of merchant vessels, founded upon the report of a committee, composed of Capt. Beaufort, Lieut. Raper, Dr. Inman, Mr. Riddle, Mr. Davies Gilbert, Mr. Palmer, and Captain Robinson. The object and tendency of this bill are clearly stated in the following extract from the *Greenwich Gazette* :—

The actual tonnage of a vessel is the precise number of tons weight which she is capable of safely carrying; but this differs materially from the *registered tonnage*. The latter is a quantity determined by certain measurements and multiplications. According to the old system, the measurements taken were simply the *length* and *breadth*. The absurdity of attempting to determine the capacity of a vessel by these two measurements alone, will at once be seen by any body who takes the trouble to reflect that in judging of size, it is quite as necessary to consider *depth* as it is to consider length and breadth.

This *registered tonnage* is used as a guide in determining the amount of harbour, pier, and lighthouse dues to be paid by each vessel. Consequently, as the dues are in proportion to the tonnage, it has been the interest of the ship-owner to keep the register as low as possible. In order to accomplish this, the ship-builder begins by giving *extra depth*. The next idea that strikes him is, that by increasing the breadth of bow and squaring the stern, he can still gain additional capacity, without, in the slightest degree, adding to the register. The consequence has been, first, an *unsafe class of vessels*, and secondly, a *fleet of washing tubs*. Where this alteration of form would have ended, nobody knows, if the aforesaid committee had not stepped in with a few new measurements and a new rule, well calculated to set at defiance the ingenuity of ship-builders.

The committee, in order to proceed upon a safe basis, directed the measurement of a number of vessels of various sizes; and the first fact at which the committee arrived was, that upon an average the registered tonnage is only three-fourths of the actual tonnage. It was not, however, any part of their object or instruction, to alter the quantity of the whole register tonnage; but to distribute it more equitably, according to the relative capacities of the different size vessels. It had been found, that whilst according to variety of form, one vessel could scarcely carry a ton more than her register, another could carry nearly double that quantity. The larger vessels were commonly those which enjoyed surplusage; the smaller vessels, therefore, will be gainers by the new mode of measurement. And whilst they enjoy this benefit, the owners of the former class are in no worse position than they were before—there being a clause, we believe, in the act, which allows them, if they so think fit, to continue the old register upon all ships at present off the stocks—the new rule is only to be applied to vessels hereafter to be built.



## HALL'S IMPROVEMENTS IN THE STEAM-ENGINE.

*Report of CAPTAIN WRIGHT.*

Prince Llewelyn, Menai Bridge, March 27, 1834.

Sir—According to your order, I beg to inform you, that yesterday we came from the Clarence Dock to Puffin Island, about ten minutes under the six hours, with a fresh breeze from the westward. We consumed about 6 cwt. and 70lbs. of Coal per hour, when formerly we burnt from 9 to 10 cwt. per hour.

Remaining, sir, your most obedient servants,  
JOSEPH WRIGHT, Captain.

To J. R. Pim. Esq. Eden Quay, Dublin,  
Director of the St. George Steam Packet Company.

N. B. The weighing of the Coals was repeated on several occasions.

*Report of Mr. JOHN FOX to the Lords Commissioners of the Admiralty.*

Sir—I have the honour to acknowledge the receipt of your letter of the 4th Instant.—I have worked an Engine with Mr. Hall's Patent Condenser upwards of three years; the Engine was altered from the old principle by Mr. Hall, and I can with great confidence state, that I find a considerable increase of power and saving of fuel. I consider, from experiments which I have made, that the power is increased nearly a fourth, and the consumption of Coal diminished more than a fourth, and in this statement I am speaking rather under than above the fact. The greatest advantage, I think, arises from the saving of the Boiler, which has never being scaled during the whole period, and is now perfectly clean; previously the deposit was obliged to be removed from the Boiler by hammering every three months, now the water is occasionally let out of the Boiler, perhaps, on an average, once in six months, but I have never had occasion to do more than sweep the bottom of the Boiler, without the necessity of using any force to remove any deposit. I shall be happy to give you any further information respecting an Improvement which I consider, from practical experience of its advantages, of great importance.

I have the honour to be, sir, your obedient servant,  
(Signed)

JOHN FOX,

To Capt. Gipps, R. N. &c. &c.

Basford, May 6th, 1835.

*Copy of a Letter from Wm. CARTLEDGE, Esq.*

My dear Sir,

Bulwell, June 25th, 1835.

As you wish, for the satisfaction of your friends, to have my opinion of your Patent Improvements upon the Steam Engine, I have great pleasure in stating that our Engine is working exceedingly well. It is upwards of two years since your apparatus was applied, and it is now in as good working condition as when you set it to work, or even better, owing, no doubt, to the abundant internal lubrication which your plan supplies, although less oil is used; I have scarcely had occasion to look to the packings of the piston and air-pump for twelve months, owing to their preservation by the lubrication. Since the Boiler was filled about eight months ago, it has continued perfectly free from scale, owing to its being supplied entirely with distilled water resulting from the condensed steam. As the Engine is coupled with a Water Wheel, and as the supply of water is very variable, I am not competent to give an accurate account of the comparative consumption of fuel or power of the Engine. I have no hesitation in saying that your invention is of great



importance where hard or dirty water, and more particularly where salt water, is used in the Boilers.

With best wishes for your success, believe me very truly your's,  
WILLIAM CARTLEDGE.

Samuel Hall, Esq. Basford.

*Copy of a Letter from WILLIAM CARPMAEL, Esq. Civil Engineer.*

Dear Sir, No. 4, Old Square, Lincoln's Inn, Jan. 30, 1835.

In reply to your questions respecting the observations I made in April last, of the working of the Engines with your improvements on board the Prince Llewelyn, I write to state, that the vessel was coming up the Mersey when I went on board, just completing a voyage of between five and six hours; on going into the Engine-room, I tried the mercurial gauge, and found there was a very steady vacuum of  $29\frac{1}{4}$  inches, the water in the boiler, by glass gauge, was exceedingly clear.—This was on a bright day, the wind being somewhat fresh.

I am yours very respectfully,

W. CARPMAEL, Civil Engineer.

Samuel Hall, Esq. Basford.

*Copy of a Letter from SAMUEL SEAWARD Esq. of the Firm of JOHN SEAWARD & Co.*

SAMUEL HALL, Esq.

Sir,—Agreeably to your wish, I beg to hand you the following particulars, as the result of my recent observations upon three different Steam Engines, having the improved method of condensation attached to them, for which you have recently taken out letters patent; they were a Pair of Marine Engines of 70 Horse Power, a Land Engine of 26 Horse Power, and a Land Engine of 10 Horse Power.

*First.*—I consider the primary object of your Patent, viz. that of condensing by external cold, to be completely effected by the means you adopt, and that too in a much more perfect degree than I have yet seen in the best condensing Engine; thus in the 26 Horse Engine, the mercury in the vacuum guage was steadily suspended at  $29\frac{1}{4}$  inches above its level, a perfection seldom or never obtained in the ordinary Engine.

*Secondly.*—The supplying the Boiler with distilled water, the product of the Steam condensed, instead of Sea Water as now used in Marine Engines, will prevent the deposit of saline or earthy matter, and the consequent injury the Boilers often sustain in long sea voyages; and it will also prevent the necessity of periodically blowing the Boilers out, which operation involves a serious loss of heat every time it takes place, and which cannot be avoided under the present system.

*Thirdly.*—Your method of preserving the superabundant Steam occasioned by stoppages, or too rapid generation, as well as the one adapted for supplying the boilers with distilled water to make up for any casual leak or escape, appear to answer perfectly, and I doubt not, that when the machinery is in good working order, the level of water in the boiler may be maintained constantly at the same height, and thus prevent the many accidents which occur by an irregular supply.

In conclusion, I would beg to observe, that although my visit to the Engines was of short duration, and that I had no apparatus with me for ascertaining the actual power to which they were severally working, yet the observations I was enabled to make, principally on the Steam Packet "Prince Llewelyn," during a three hours' run, convinced me of the perfect success of this method of exter-



nal condensation. I shall, therefore, not only recommend its adoption to others, but shall be most happy to have an opportunity of applying it to a pair of our marine Engines.

Wishing you every success, I remain, sir, your obedient servant,

SAMUEL SEAWARD.

Canal Iron Works, Limehouse, London, April 23rd, 1835.

*Copy of a Letter from WILLIAM NICHOLSON Esq. Civil Engineer.*

Manchester, 25th April, 1835.

Dear Sir,—I have much pleasure in complying with your request that I should send you my written opinion respecting your Patent Improvements in Condensing Engines.

The only Engines to which I have as yet seen your improvements applied, are one at Messrs. Sherratt's, at Salford, one at Mr. Cartledge's, at Bulwell, near Nottingham, and one in Nottingham, at the works of Mr. John Kendall.

From memoranda taken at the time, I find the vacuum at Messrs. Sherratt's was 29 inches in the mercury gauge, and the fireman was of opinion, that the consumption of coal was decreased since your improvements had been applied; but as the work of this Engine was very irregular, I should not lay much stress on the consumption of fuel, though the vacuum alone speaks greatly in favour of your mode of condensation.

At Mr. Cartledge's, the vacuum was also 29 inches in the mercury gauge, and the Engine doing regular work, to the extent of its power, in a Cotton-doubling mill; I was glad to find the vacuum so steady, and the Engine working in every respect so satisfactorily. The boilers had not been lately opened, but the Manager informed me, that there was so little scale or deposit the last time they were opened, that he anticipated no necessity for cleaning them on any occasion.

At Mr. John Kendall's, the vacuum varied from 30 to 29½ inches in the mercury gauge, and this engine was doing regular work, to the extent of its power, in a Lace Manufactory. The Engine was working as well as possible; and that part of your improvements for supplying the boiler with water, when the condensed water should not be found sufficient, was acting with the greatest certainty and correctness. I consider this Engine to have your improvements applied to it in a far more advantageous arrangement than either of the other two Engines, and I consider the result as conclusive of the importance of your improvements.

On reading your early publication respecting these improvements, I was ready to allow the importance of returning pure condensed water into the boiler: but always felt great doubt of your effecting a good and instantaneous vacuum, without the admission of water in some proportion to the steam in the condenser. These doubts are now removed; and the great simplification, which only limited experience has enabled you to make in the apparatus, convinces me that the improvements will be found of the greatest importance. That they may be patronized as they deserve, and that you may reap the harvest due to your talent and unwearied labour, is the sincere wish of,

Dear sir, yours most truly,

WILLIAM NICHOLSON.

To Samuel Hall, Esq.

*To the Editor of the Nautical Magazine.*

Sir—I was a good deal surprised to see in your Magazine for June last the following statement of a person signing himself "An Engineer." "*I have authority to state*," (speaking of Mr. Hall's patent apparatus aboard "the City



of London "steam-boat) " that the estimated price was £500, but nearly *three* times that sum was paid for them; that the consumption of coals was increased; that any one wishing to try the experiment may have them very cheap, by applying at Deptford Creek, where they are now lying." I beg to inform you, sir, in reply to part of the above statement, that I wrote to the directors of the General Steam Navigation Company, 13th March last, on behalf of a friend who commissioned me to treat with them for the purchase of the apparatus in question; and so far from selling it me *very, very* cheap, they would not sell it at all, as will be seen by the answer, as below, from their secretary. Let me further add, in answer to your *anonymous* correspondent, that *I have authority to state*, that the General Steam Navigation Company, instead of having paid *three* times £500 for them, have only paid £350. I have every reason to believe; that the other statement contained in the few lines I have quoted, is equally destitute of truth; for I am informed by most respectable persons, that the consumption of fuel, instead of being *increased*, is, as Captain Martin states in his report, considerably *decreased*. This point, however, I leave to be decided by persons more conversant with the subject than myself.

I am, sir, yours very respectfully.

JOHN MAGGS.

General Steam Navigation Company, Incorporated by Act of Parliament, 69, Lombard-st. London, 17th March, 1835.

Sir, I am desired by the directors of this company to acquaint you, in answer to your letter of the 13th Instant, that they cannot treat with you at all on the subject of your application.

I am, sir, your obedient servant,

CHARLES BESSELL, Sec.

Mr. J. Maggs, 11 Green-street, Grosvenor-square.

SAMUEL HALL, Esq.

Liverpool, 6th Aug. 1835.

Dear Sir,—I was much pleased in witnessing the working of the engines on board the "Windermere" this morning, with your patent condensing apparatus. Although I only saw them working a very short time, yet I consider you have accomplished a more perfect mode of condensation, as was shewn by the barometers attached to the condensers indicating a real vacuum of 29 inches of mercury. I consider this mode of condensation of great value in marine engines, especially those for sea voyages, where we have witnessed so much destruction in the boilers by the use of salt water.

I am, dear sir, for Fenton, Murray, and self,

Yours very respectfully,

(Signed)

RICHARD JACKSON.

N. B. Although the vessel was plying in salt water, I was pleased to find the water supplied to the boiler from the air-pumps of the engines perfectly fresh.

### *The Editor of the Nautical Magazine.*

Liverpool, August 13th, 1835.

Sir,—Having, in a voyage from this place to Ulverstone and back, fully investigated the working of the engines with Mr. Hall's improvements, (aboard the *Windermere*,) and the operations of his patent apparatus, I have great pleasure in stating, that every thing works so well, that I have no hesitation in confirming all the statements made by me on the subject, in the letter which you did me the favour to insert in this month's *Nautical Magazine*; and beg to say, that I shall be happy to give every information and explanation respecting Mr. Hall's improvements to any parties who may apply to me.

I am, sir, your most obedient servant,  
WILLIAM MOSEDALE, Engineer, Derby.



## Nabal Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—SEPTEMBER 21st, 1835.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, BRITANNIA, 120.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, ROYAL ADELAIDE, 104.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, HOWE, 120.

ASTREA—Falmouth.  
BRITANNIA, 120—Portsmouth.  
CLEOPATRA, 26—10th Sept. left Sheerness, with Countess of Durham, for St. Petersburg.  
EXCELLENT, late ROYNE—Portsmouth, for the practice of naval gunnery.  
HOWE 120—Sheerness.  
OCEAN, 80—Sheerness.  
PIKE, 12—Was spoken with on the 23d July off Cape Finisterre, by H.M. steamer African.  
PORTSMOUTH, *Yacht*—Portsmouth.  
PRINCE REGENT *Yacht*—Deptford.

PYLADES, 18—To sail for Cape from Plymouth 27th Sept.  
RODNEY, 92—Plymouth.  
ROYAL GEORGE *Yacht*—Portsmouth.  
ROYAL SOVEREIGN *Yacht*—Pembroke.  
ROYAL ADELAIDE, 104—Plymouth.  
SEAFLOWER, *Cutter*, 4—18th Sept. sailed for Jersey.  
SPEEDY, *Cutter*—Portsmouth station.  
WANDERER, 16—Chatham, fitting, said for East India station.  
WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CAMELEON, 10—23d Aug. arrived at Lisbon from Coruna.  
CASTOR, 36—31st Aug. at St. Andero.  
CLIO, 16—9th July at St. Andero.  
HASTINGS, 74—In the Tagus 16th Aug.  
LIGHTNING—1st Aug. arrived at Lisbon from Plymouth.  
NIMROD, 20—10th July north coast of Spain.  
MAGICIENNE, 26—20th Aug. left Spithead for north coast of Spain. At St. Andero.

PEARL, 20—24th Aug. left Lisbon for Coruna.  
RINGDOVE, 16—14th Aug. at Bilboa.  
ROYALIST, 10—3d Aug. in the Tagus.  
RUSSELL, 74—18th Aug. sailed for Lisbon.  
SARACEN, 10—14th Aug. at Bilboa.  
STAG, 46—5th July left Lisbon for Santander.  
TWEED, 20—5th Sept. in the Tagus.  
VIPER, 6—3d Aug. in the Tagus.  
WATERWITCH, 10—7th Sept. left Falmouth for north coast of Spain.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St. V.—19th Aug. left Malta for Constantinople.  
BARIHAM, 50—17th Aug. arrived at Malta; 19th sailed for Constantinople.  
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CALEDONIA, 120—16th June at Malta.  
CANOPUS, 84—2d June at Piræus.  
CEYLON, 2—Malta.



CHILDERS, 16—30th Aug. arrived at Malta from Corfu; 1st Sept. sailed.  
 COLUMBINE, 18—16th June Malta; 22d sailed.  
 EDINBURGH, 74—2d June at Piræus.  
 ENDYMION, 50—26th Aug. arrived at Malta; 28th sailed.  
 FAVORITE, 18—29th Aug. left Malta.  
 JASEUR, 18—15th June at Gibraltar.  
 MALABAR, 74—26th Aug. arrived at Malta; 28th sailed.  
 MEDEA, 6—2d June at Piræus.  
 ORESTES, 18—28th Aug. left Malta.  
 PORTLAND, 52—Expected at Malta 6th Aug.

PLUTO, St. V.—3d Aug. arrived at Gibraltar; 12th Aug. arrived at Malta; 15th sailed for Trebizonde.  
 REVENGE, 78—27th Aug. left Malta.  
 SAPHIRE, 28—27th June arrived at Malta; 28th sailed for Prevesa.  
 SCOUT, 18—8th Aug. left Barcelona for Malta.  
 THUNDERER, 84—2d June at Piræus.  
 TRIBUNE, 24—Malta.  
 TYNE, 28—8th Aug. at Barcelona. To sail for Alicaut.  
 VERNON, 50—2d June at Piræus.  
 VOLAGE, 28—12th Aug. in Dardanelles.

## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—June at Sierra Leone.  
 BRITOMART, 10—June Bight of Benin.  
 BUZZARD, 10—June Bight of Benin.  
 CHARYBDIS, 3—2d June at Cape Good Hope.  
 CURLEW—June in Bight of Benin.  
 FAIR ROSAMOND, *Schooner*—June in Bight of Benin.  
 FORESTER—21st June off Prince's Island.

GRIFFON, 3—July in the Gambia.  
 LYNX, 10—June Bight of Benin.  
 PELICAN—June gone to the Cape.  
 PELORUS, 18—9th Sept. arrived at Portsmouth.  
 ROLLA, 10—June in Bight of Benin.  
 THALIA, 46—20th July sailed for St. Helena.  
 TRINCULO, 18—June in Bight of Benin.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ANDROMACHE, 28—17th March at Bombay.  
 HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th February left Sydney for Twofold Bay.  
 RALEIGH, 16—17th June at Bombay.  
 RATTLESNAKE, 28—17th June at Bombay.

ROSE, 18—18th April at Singapore' from Malacca.  
 VICTOR, 18—7th June at Cape; 11th sailed for Mauritius.  
 WINCHESTER, 52—21st April sailed for Bombay.  
 WOLF, 18—5th Feb. sailed from Algoa Bay for India.  
 ZEBRA, 16—12th March sailed for Trincomalee.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*, PRESIDENT, 52.

BELVIDERA, 42—16th July off St. Paul's, Gulf St. Lawrence.  
 CHAMPION, 18—16th July arrived at Port Royal; 8th Aug. arr. at Halifax.  
 COLUMBIA, St. V.—19th June arrived at Trinidad.  
 COMUS, 18—16th July arrived at Port

Royal from Caymans; 18th July arr. at Barbados.  
 CRUIZER, 18—18th July at Barbados.  
 DEE, St. V. 4—7th Aug. at Jamaica.  
 DISPATCH, 18—25th June left Barbados for Jamaica.  
 DROMEDARY—Bermuda.



**FLAMER**, St.V.—Running with mails between Jamaica and Barbados.

**FLY**, 10—3d Sept. arrived at Plymouth from Mexico.

**FORTE**, 44—25th July left Halifax for Quebec.

**GANNET**, 18—11th Aug. at Halifax.

**LARNE**, 18—29th July at Barbados.

**MAGNIFICENT**, 4—Port Royal.

**PICKLE**, 5—16th July at Port Royal.

**PINCHER**, 5—Tender to flag-ship, 2d Aug. at Jamaica.

**PIQUE**, 36—30th July sailed for Quebec, with the commissioners named in our last. The Pique will return to England immediately with Lieut.-Gen. Lord Aylmer, appointed to the command of the Forces in Ireland.—*Hants. Telegraph.*

**PRESIDENT**, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 25th July left Halifax for Quebec.

**RACEHORSE**, 18—1st June at Para.

**RACER**, 16—May at Barbados; 11th June left St. John's, Newfoundland, for Fortune Bay.

**RAINBOW**, 28—7th Aug. at Jamaica.

**SAVAGE**, 10—18th July arrived at Barbados from Antigua.

**SCYLLA**, 18—2d Aug. at Jamaica, from Chagres.

**SERPENT**, 16—July at Nassau.

**SKIPJACK**, 5—7th Aug. at Port Royal.

**SPITFIRE**, St.V.—11th July arrived at Jamaica from Barbados.

**VESTAL**, 26—9th July at Barbados.

**WASP**, 18—14th June at Carthagena.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, DUBLIN, 50. 2d June.

**ACTÆON**, 28—31st May in River Plate.

**BASILISK**—4th May left Plymouth for South America.

**BLONDE**, 46—4th June at Callao from Valparaiso.

**CHALLENGER**, 28—25th March at Rio Janeiro. To return again shortly to the Pacific.

**COCKATRICE**, 6—Running between Rio Janeiro and Buenos Ayres.

**CONWAY**, 25—1st July to leave Valparaiso for England. 8th April at San Blas, Mexico.

DUBLIN, 50—Rio Janeiro.

**HORNET**, 6—Running between Monte Video and Rio Janeiro.

**NORTH STAR**, 28—16th June arrived at Rio from Pernambuco.

**RAPID**, 10—26th May arr. at Rio from Falkland Islands.

**ROVER**, 16—30th June at Rio from Pernambuco.

**SATELLITE**, 18—Ordered home; 26th October arrived at Callao from Valparaiso.

**SPARROWHAWK**, 18—10th May at Valparaiso.

**TALBOT**, 28—24th May left the Cape for Rio. Arrived 22d June.

#### TROOP SHIPS.

**ATHOL**, *Troop Ship*—9th Sept. arrived at Plymouth from Cork.

**BUFFALO**, *Store Ship*—Portsmouth.

**JUPITER**, *Troop Ship*—To leave Woolwich 21st Sept.

**ROMNEY**, *Troop Ship*—21st May spoken in lat. 46° N. long. 9° W.

#### STEAM VESSELS.

**AFRICAN**—See Packets.

**ALBAN**—See Mediterranean Station.

**BLAZER**—8th Sept. arrived at Plymouth. Woolwich, refitting.

**COLUMBIA**—See West Indies.

**CARRON**—Surveying.

**COMET**—Woolwich.

**CONFIANCE**, 2—Running with mails between Malta and Corfu.

**DEE**, 4—See North American Station.

**FIREBRAND**—27th Aug. left Woolwich,

with Bishop of London, for Rotterdam.

**FIREFLY**—See Packets.

**FLAMER**, 6—See West India Station.

**HERMES**—Woolwich.

**LIGHTNING**—Arrived on 8th Aug. from Woolwich, and left on the following day, having completed her coals, and taken in stores for the ships in the Tagus. Mr. Michen, Consul, came and departed in her.—*Devon. Tel.*

**MEDEA**, 6—See Mediterranean Station.

**MESSENGER**, 1—Channel service.



**METEOR**—Was paid advance of wages on 11th Aug. and started for the West Indies, having on board Wm. Pitt Adams, Esq., Secretary of Legation at Bogota, and about eighteen supernumerary boys for the President.

**PHENIX**—Woolwich.

**PLUTO**—Mediterranean.

**RHADAMANTHUS**—Woolwich. Ordinary.

**SALAMANDER**—Woolwich. Ordinary. **SPITFIRE**, 6—See West India Station.

**TARTARUS**—Lieut. James sailed from Woolwich 3d July, with the Hon. Henry Ellis, Ambassador to Persia, and suite on board, for Malta.

#### SURVEYING VESSELS AT HOME AND ABROAD.

**ÆTNA**, 6—10th Sept. arrived at Portsmouth; 14th moved into harbour to refit.

**BEACON**—Archipelago.

**BEAGLE**, 10—Cts. of Patagonia & Chili.

**CARRON**, St. V., Com. E. Belcher, surveying St. George's Channel.

**FAIRY**, 10—North Sea.

**GULNARE**, Hired Schooner—Gulf of St. Lawrence.

**INVESTIGATOR**, 16—Orkney Islands.

**LARK**—Fitting at Sheerness.

**MASTIFF**, 6—Archipelago.

**RAVEN**—Arrived with Ætna.

**THUNDER**—3d March sailed for Honduras.

#### OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.

Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.

Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.

Lieutenant C. G. Robinson.—North Coast of Wales.

#### PAID OFF.

**ALGERINE**, 10—1st Sept. Portsmouth.

**ALLIGATOR**, 28—27th Aug. Portsmouth.

**VICTORY**, 104.

**FIREFLY**—Crew, 31st Aug. Portsmouth.

**JACKDAW**—Crew, Portsmouth.

**OCEAN**—20th Aug. Sheerness.

**SAN JOSEF**, 110—Plymouth.

**SPARTIATE**, 76—8th Sept. Plymouth.

#### COMMISSIONED.

**BRITANNIA**, 120—Portsmouth.

**CLEOPATRA**, 26—Chatham.

**HOWE**—27th Aug. Sheerness.

**LARK**—Sheerness

**LINNET**—Portsmouth.

**LEVERET**—16th Sept. Plymouth.

**PHENIX**—Woolwich.

**QUAIL**—Plymouth.

**RODNEY**, 92—2d Sept. Plymouth.

**ROYALADELAIDE**—1st Sept. Plymouth

**SULPHUR**, Surv. V. Portsmouth.

#### APPOINTMENTS.

##### PROMOTIONS.

**CAPTAINS**—P. Broke, H. D. Trotter.

**COMMANDER**—M. Dixon.

**LIEUTENANTS**—W. R. Mends, W.

Lord, F. Fanshawe.

**SURGEON**—J. J. Lancaster.

##### APPOINTMENTS.

**AFRICAN**, St. V.—*Mate*, P. B. Stagg.

**ÆTNA**, Surv. V.—*Capt.* A. T. E. Vidal.

**ANDROMACHE**, 28—*Lieut.* R. Gore.

**ASIA**, 84—*J.* Sandford.

**BRITANNIA**, 120—*Capt.* E. R. Williams; *Lieuts.* T. V. Watkins, M. M. Neale,

C. Gayton; *Master*, R. Yule; *Surgeon*,

G. King, M.D.; *Purser*, R. Halliday;

*Chaplain*, C. B. Rozenberg; *Mates*, E.

Codd, T. Lewis; *Sec. Mast.* E. L. Spence;

*Clerk*, W. Hood; *Assist. Surg.* R. Brown,

M.D.; *Schoolmr.* J. Paterson; — *J. M.*

Hobbs.

**CALEDONIA**, 120—*Purser*, G. Miller.

**CLEOPATRA**, 26—*Lieut.* E. Stopford;

*Surgeon*, G. A. Allen.

**CASTOR**, 36—*Sec. Mast.* R. Stokes.

**COLUMBINE**, 18—*Purser*, G. Clarke.

**CURLEW**, 10—*Lieut. Com.* E. Norcott.

**DUBLIN**, 50—*Lieut.* J. Dick.

**EXCELLENT**, 76—*Lieut.* G. Lavie;

*Mate*, J. C. Byam.

**FAIRY**, Surv. V.—*Master act.* R. Hos-

kyer.

**JUPITER**, *en flute*—*Lieuts.* R. Byron,

J. F. Fletcher, Hon. W. D. Pelham, J. R.



Baker; *Mast.* S. Northcote; *Surgeon*, J. Drummond; *Sec. Mast.* W. Parsons; *Purser*, J. L. Jones; *Mate*, H. T. Large; *Mast. Assist.* J. Purches; *Asst. Surg.* M'Cluer.

HERMES, St. V.—*Lieut.* W. S. Blount. HOWE, 120—*Lieuts.* A. C. Dacre, C. Pearson; *Chaplain*, Rev. E. Pitman.

LINNET, Packet—*Lieut.* W. Downey; *Mast.* J. N. King.

LEVERET, 10—*Lieut.* C. Bosanquet; *Mast.* J. T. Russell; *Clerk*, T. Crispin.

NORTH STAR, 28—*Lieut.* G. E. Hammond.

ORDINARY—*Portsmouth*, *Chaplain*, T. Ferris. *Plymouth*, *Chap.* J. Briggs.

PEARL, 20—*Mast.* W. Wheeler.

PINCHER, 5—*Lieut.* G. Byng.

PYLADES, 18—*Lieut.* W. F. Blair.

PHENIX, St. V.—*Com.* W. H. Henderson; *Lieuts.* G. T. Gordon, W. Robson; *Surgeon*, T. W. M'Donald; *Purser*, J. Giles.

QUAIL, 4—*Lieut.* P. Bisson; *Master*, H. Paul; *Clerk*, T. M. Hobbs.

RAINBOW, 28—*Clerk*, C. H. Breay.

RODNEY, 92—*Capt.* Sir H. Parker; *Com.* E. R. Mainwaring; *Lieuts.* G. R. Wilson, C. F. Brown, H. E. Edgell, C. Wise, W. R. Payne; *Surg.* C. M'Arthur, M.D.; *Purser*, W. Knapman; *Sec. Mast.* W. Laidstone; *Mates*, W. H. Haydon, C. Coxwell; *Capt. Mar.* Balchild; *Lieut. Mar.* J. P. Stephens, E. Walter; *Assist. Surgs.* W. W. Wright; J. Stiven.

ROYAL ADELAIDE, 120—*Capt.* G. F. Falcon; *Lieuts.* R. A. Bradshaw, E. G. Wells, M. C. Forster, C. H. M. Buckle; *Master*, W. Scott; *Chaplain*, W. Hennah; *Purser*, J. Purver; *Assist. Surg.* T. Frazer.

RUSSEL, 74—*Chaplain*, J. Cooper.

SEAFLOWER, Cutter—*Lieut.* J. Roche; *Assist. Surg.* G. Dunn; *Sec. Mast.* Williams; *Mate*, J. B. Stewart; *Mast. Assist.* W. Blackforce.

TALBOT, 28—*Sec. Mast.* F. W. Paul. THALIA, 46—*Lieuts.* P. Rainier, S. Grenfell, Murray; *Sec. Mast.* R. Hardie. VESTAL, 26—*Surg.* J. J. Lancaster.

## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 445.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
175 Anne Caroline	Curton	Carleby	Liverpool	Fair Island	1 Sept.	
176 Aurora	Thomas	Stockton	London	Middle S.	23 Aug.	
177 Brig		Sunderland	London	At Sea	23 Aug.	
178 Brothers	Taylor			Near P. Isaac	10 Sept.	
179 Chance It		Newcastle	Campbton.	Loosmouth	24 Aug.	
180 Diana		Dumfries		St. Lawrence	20 Dec.	
181 Eagle	Price	Liverpool		At Sea	13 June	
182 Edna		Calcutta	China	Not heard of	since	
183 Eliza	Follins		China	Paracela	23 Jan.	2d Nov.
184 Ermine	Stavell	Yarmouth, S.W.	Gloucester	At Sea	27 Aug.	
185 Eather.		Limerick	Nova Scotia		7 July	Two saved.
186 George III.		London	V. D. Land	R. Derwent	12 April	124 lives lost.
187 Glenburnie	Catrick	Petersburg	Liverpool	At Sea	25 Aug.	Run foul of.
188 Greenock	Flockhart	Jamaica	Quebec	Halifax	26 July	
189 Isabella				Nw Brnsawk.	30 July	
190 Jessie			Nw. Brnsk.	At Sea	10 June	Three saved.
191 John & Mary				St. Lawrence	2 Dec.	
192 Lady Neville	Robson	Newcastle		Goodwin	10 Sept.	
193 Laura		Philadelph.	Quebec	C. Ray	9 June	Crew saved.
194 Mangalore	Todd	Liverpool	St. Peterabrg	Shetland	8 Aug.	Crew saved.
195 Mars		Workington.		St. Lawrence	20 Dec.	
196 Mary-Ann		Pictou	Liverpool		15 Dec.	
197 Rapid	Colling	Llanelly	London	Lundy I.	24 Aug.	
198 Rebecca		Limerick	Liverpool	Grenada	30 April	
199 Rob Deweor		Bristol	Quebec	Off Louisbrg.	30 April	Crew saved.
200 Sam Freeman				Nw Brnsawk.	11 June	
201 Seaflower	Houlton	Quebec	St. John's	P. Edward I.	3 Aug.	
202 Susan		Torquay	Miramichi	At Sea	1 Sept.	Crew saved.
203 Sylph	Mann	Arbroth		Christiansand	1 Sept.	
204 Warwick	Hodsdon	Demerara	Newfdld.		26 July	Crew saved.



## FALMOUTH, 20TH SEPTEMBER.

LISBON—Sails every Tuesday.

Packet.	Sailed.	Due.
ESPOIR .....	29 Aug.	26 Sept.
PANTALON .....	6 Sept.	4 Oct.
NAUTILUS .....	13 Sept.	11 Oct.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days: sails 1st of every Month.—Route—Gibraltar, Malta, Greece, Corfu, Egypt, and India, and thence returns in the same rotation.

FIREFLY, st. v. ....	3 Aug.	25 Sept.
AFRICAN, st. v. ....	3 Sept.	26 Oct.

NORTH AMERICA—9 weeks: sails 1st Wednesday every Month.—Route—To Halifax and back to Falmouth. — [This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

SPEY .....	8 Aug.	19 Oct.
REWARD .....	5 Sept.	7 Nov.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 1st of every Month.—Takes La Guayra Mail.

NIGHTINGALE ....	3 Aug.	26 Oct.
LYRA .....	3 Sept.	26 Nov.

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—Crooked Island, HAVANA, VERA CRUZ, Tampico, Vera Cruz, Havana, Falmouth.

Packet.	Sailed.	Due.
REINDEER .....	17 June	21 October.
PIGEON .....	17 July	20 Nov.
CAMDEN .....	17 Aug.	21 Dec.
SHELDRAKE .....	17 Sept.	20 Jan.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 15th of every Month.—Takes Carthage Mail.

STANMER .....	17 July	9 October.
MUTINE .....	17 Aug.	9 Novem.
TYRIAN .....	17 Sept.	10 Decem.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks: sails 1st Tuesday every Month.—Route—January to August inclusive; to Madeira, Teneriffe, Rio de Janeiro, Bahia, Pernambuco, and Falmouth. —September to December inclusive: to Madeira, Teneriffe, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

OPOSSUM .....	5 June	23 Oct.
SWALLOW .....	10 July	27 Nov.
ECLIPSE .....	9 Aug.	27 Decem.
LAPWING .....	4 Sept.	22 Jan.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

BLAZER—15th Sept.	LORD MELVILLE—15th Sept.	POLOVER—19th Aug.	SKYLARK—22d Aug.
BRISERIS—6th Sept.	PANDORA—11th Sept.	SCORPION—16th Sept.	STAR—8th Sept.
GOLDFINCH—15 Sept.		SEAGULL—26th Aug.	TARTARUS—21st Aug.

## Births.

On the 18th September, at Rodwell, near Weymouth, the lady of Lieutenant Carey, R. N., of a son.

The lady of Captain Dickenson, C. B. of a son.

At Chelsea, the lady of Lieutenant J. F. Browne, R. N., of a son.

In Cobourg Place, Plymouth, the lady of Lt. Thomas, of a daughter; since dead.

At Stoke, the lady of Lieut. C. V. Hoare, R. N., of a daughter.

At Plymouth, the lady of [Lieut. W. H. Symons, R. N. of a son.

At Falmouth, the lady of Mr. Vincent, R. N., of a son.

At Weymouth, the lady of Captain J. B. Decker, R. N., of a daughter.

At Otterington Hall, Northallerton, the lady of Captain Boss, R. N., of a daughter.

At Cheltenham, the lady of Captain John M'Dougall, R. N., of a son.

At Carwythenick-house, near Helston, the lady of Capt. Maule, of a son.

On the 2d of June, at Simon's Bay, Cape of Good Hope, the lady of Admiral P. Campbell, C. B., of a son.

At Milford, near Godalming, the lady of Lieut. Binstead, R. N., of a son.

## Marriages.

On Saturday, the 12th September, Lieut. Geo. Wm. Rabett, R. N., to the Rt. Hon. Lady Louisa Turnour, daughter of Lucy Countess of Winterton, and sister of the present Earl of Winterton.

At East Teignmouth, Lieut. Joseph Pyke, R. N., to Emilia Bowen, youngest daughter of the late Reverend Conway Stafford.

At Barnstaple, Lieut. Geo. Mortimer, R. N., to Miss Elizabeth Prideau James, of Sidmouth, eldest daughter of the late John James, esq.



On the 12th Sept., at Melcombe Regis, Mr. J. C. Barlow, Master in the Royal Navy, to Charlotte, eldest daughter of Mr. John Bartlett, of Weymouth

At St. Mary-le-bone, the Hon. Capt. Best, R. N., son of Lord Wynford, to the Honorable Marianne Kenyon, only daughter of Lord Kenyon.

At Harborton, Capt. Edmund Younge, R. N., to Jane, second daughter of John R. Bennett, of Sandwell, esq.

At St. Anne's church, Belfast, Thos. Hungerford, esq., R. N., to Caroline, daughter of the late Wm. H. Trotter, esq. Downpatrick.

At Chelsea, Lieut. A. Darby, R. N., to Anna, daughter of M. Sisk, esq., of Cadogan-street.

At Dry Drayton, Commander Frank Ramsden, to Elizabeth, daughter of the Rev. Dr. Smith, rector of Dry Drayton.

### Deaths.

At Westwell-street, Lieut. J. Street, R. N., aged 62.

On the 14th September, at Beaufoy Terrace, Edgeware road, Joseph Acott, esq., R. N., aged 60.

Mr. Joseph Scott, Master R. N. (1801) aged 60.

At Newport, near Barnstaple, almost suddenly, aged 50 years, Lieut. John Gibbs Bird, (1806.)

On the 1st of June last, after a short illness, of fever, in the Naval Hospital, at Port Royal, Jamaica, Mr. John Every, second master of H. M. schooner Pickle, sincerely regretted by his family and friends.

At his residence, Bedford-sqr. Brighton, on the 8th inst., Capt. Fuller, R. N.

At Tyne House, Haddington, on the 26th Aug., Lieut. John Wilkie, R. N. (1814.)

Lately, at Newport, Isle of Wight, Mr. Josiah Higden, Purser, R. N., aged 75 (1806.)

At Plymouth, on the 12th Sept., Commander W. Price, R. N., aged 60, after a severe illness.

On the 26th July, on his passage to England, in the Lady Fitzherbert, Com. John Eveleigh, R. N., late Stipendiary Magistrate at Jamaica, aged 48.

In St. James's-street, Commander Ambrose Crofton, R. N. (1794.)

At Barbadoes, of yellow fever, Mr. Wm. Chamberlain, aged 17, Midshipman of H. M. steam-vessel, Firefly,

son of Lieut. W. B. Chamberlain, R. N. of Portchester.

On the 17th January last; at Calcutta, Mr. Joseph Harfield, Master, R. N., aged 44.

At Garreglwydd, aged 85 years, John Jones, esq., formerly Commander of one of H. M. packets on the Falmouth and Holyhead stations, and probably the last surviving officer who was present at the memorable siege of the Havana in 1763.

In Canada, on the 24th June last, Mr. Thomas Godfrey, Purser, R. N., (1800) aged 53.

At Carrickfergus, Captain Lennox Thompson, R. N. (1802,) the second officer on the list of captains.

On the 16th ult. at Southampton, Captain Wm. Sargent, R. N. The deceased commenced his naval career early in life, and passed through it with activity and zeal. At a later period he distinguished himself by his professional ability, when serving as a volunteer in the Hebrus, when she captured L'Etoile, and likewise when in command of the Cordelia, at Algiers, under Lord Viscount Exmouth. In private life he was a warm friend, a sincere, upright, and honourable man.

At East Passage, Waterford, Lieut. David Richardson, R. N. (1728,) aged 78; an old pensioner of Greenwich Hospital.

At Southwold, Com. Edw. Kilwick.

In Woburn-square, London, Lieut. E. J. Cruchley, R. N. (1813) aged 43.

At Abbot's Langley, Herts, Commander Robert Milburne Jackson. The deceased was first lieutenant of the Hebrus when she captured L'Etoile.

At Ballynock, Lieut. J. Stannus, R. N.

At Hobart Town, Lieut. Smith, R. N.

On the 17th of July last, at the naval hospital, Bermuda, aged 24, Mr. Henry Hoskyn (of Torpoint) second master of H. M. S. Vestal. He died much regretted by all who knew him, having endeared himself to his brother officers by his excellent disposition and conduct.

By being thrown from his gig at Bedhampton, on his return from Portsmouth, Mr. Thomas Jeffrey, purser of H. M. S. Serpent.

On the 17th Aug. at Wells, Mr. John Racer, highly respected, upwards of 47 years agent to the Trinity House, London, and master of the Diligent tender under that board.



**METEOROLOGICAL REGISTER, kept at Croom's Hall, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**AUGUST, 1835.**

AUGUST, 1835.

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
								Quarter.		Strength.			
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
1	S.	30.13	30.10	65	76	51	77	S.W.	S.W.	2	2	B.	B.
2	Su.	29.98	30.00	64	72	55	73	S.E.	E.	4	5	Bc.	Bc.
3	M.	30.06	30.04	65	69	56	70	N.E.	N.E.	5	5	Bc.	Bc.
4	Tu.	30.02	29.98	64	74	49	75	N.	N.	3	3	O.	Bc.
5	W.	30.02	30.02	66	74	52	76	W.	S.W.	5	6	Bcm.	O.
6	Th.	30.05	30.06	70	73	60	74	S.W.	W.	5	4	Bcp (1	O.
7	F.	29.99	29.99	64	66	62	72	S.W.	N.W.	5	6	Op (2)	Bc.
8	S.	30.26	30.28	57	68	49	69	N.W.	N.W.	5	5	Bm.	Bm.
9	Su.	30.35	30.33	59	71	49	72	N.	N.	2	2	Bm.	B.
10	M.	30.31	30.28	70	81	52	82	S.W.	S.W.	2	2	Bv.	Bv.
11	Tu.	30.10	30.04	74	83	57	84	S.E.	S.	3	4	O.	B.
12	W.	29.97	29.96	68	78	58	80	S.W.	S.W.	3	3	Bc.	Bc.
13	Th.	30.08	30.10	62	70	57	73	N.W.	N.E.	3	3	Bcm.	Bcm.
14	F.	30.22	30.21	63	72	52	72	N.E.	N.E.	3	3	B.	B.
15	S.	30.19	30.15	62	72	48	72	S.E.	S.W.	3	3	Bm.	Bm.
16	Su.	30.16	30.18	66	75	59	76	W.	W.	1	2	O.	O.
17	M.	30.26	30.28	72	71	61	74	N.W.	N.	2	5	O.	Bc.
18	Tu.	30.29	30.24	68	71	57	72	E.	E.	3	3	Bv.	Bv.
19	W.	30.21	30.16	70	76	56	77	N.E.	N.E.	3	3	Bv.	Bv.
20	Th.	29.93	29.81	71	75	58	76	E.	S.E.	4	5	B.	Bct.
21	F.	29.62	29.56	70	82	55	83	S.E.	S.E.	2	3	B.	Bc.
22	S.	29.56	29.62	69	71	60	74	S.	S.W.	5	5	Bc.	Bc.
23	Su.	29.74	29.80	60	66	53	69	S.W.	S.W.	5	6	Bcp (2)	Bcp (3)
24	M.	29.58	29.56	63	70	57	72	S.	S.W.	4	4	Bcp (2)	Bc.
25	Tu.	29.60	29.60	60	64	55	67	W.	W.	3	6	O.	Qptl (3) (4)
26	W.	29.66	29.66	56	59	51	61	N.W.	N.W.	4	4	Or (2)	Od (4)
27	Th.	29.76	29.80	60	65	50	66	S.E.	N.E.	3	3	O.	O.
28	F.	30.01	30.03	64	65	53	67	N.E.	N.E.	5	5	Bcp (1	Bc.
29	S.	30.05	30.03	61	66	48	66	E.	E.	3	3	B.	B.
30	Su.	30.02	30.04	56	69	47	70	S.E.	E.	3	3	Bm.	B.
31	M.	30.08	30.06	57	63	48	66	N.	N.E.	3	3	B.	Bc.

August—Mean height of Barometer=30.004 inches; Mean Temperature=63.4 degrees;  
 Depth of Rain fallen=1.00 inches.

August—Mean height of Barometer=30.004 inches; Mean Temperature=63.4 degrees;  
Depth of Rain fallen=1.00 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.	
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.	p Passing temporary showers.
1 Light Air.	c Clouds—detached passing clds.	q Squally.
2 Light Breeze.	d Drizzling Rain.	r Rain—continued rain.
3 Gentle Breeze.	e Foggy—f Thick fog.	s Snow.
4 Moderate Breeze.	g Gloomy dark weather.	t Thunder.
5 Fresh Breeze.	h Hail.	u Ugly threatening appearances.
6 Strong Breeze.	i Lightning.	v Visible clear atmosphere.
7 Moderate Gale.	m Misty hazy atmosphere.	w Wet Dew.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.	. Under any letter indicates an extraordinary degree.
9 Strong Gale.		
10 Whole Gale.		
11 Storm.		
12 Hurricane.		

*The Figures in the Weather Columns.*—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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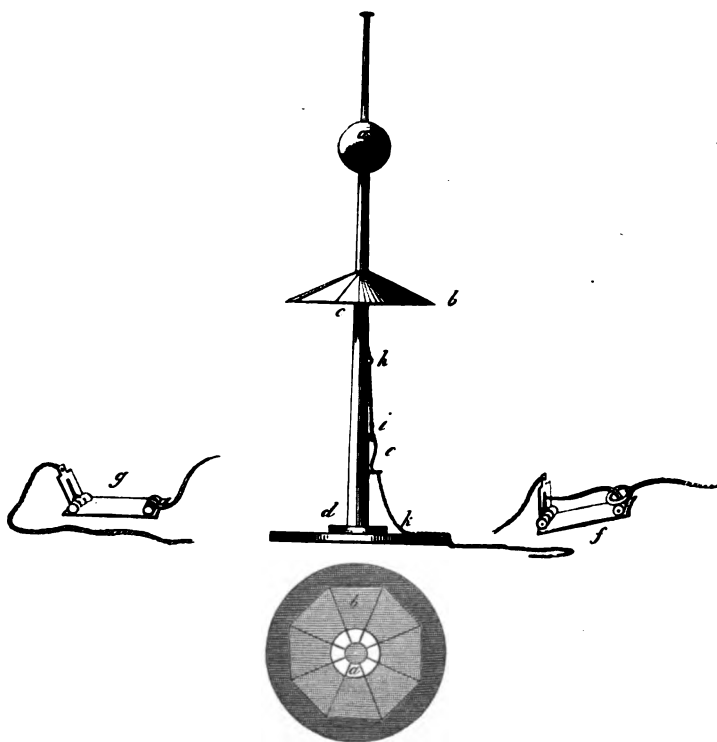








*Observatory of St. Helena.*



*Time Ball of the Observatory of St. Helena.*



## ORIGINAL PAPERS.

NOVEMBER, 1835.

NEW SHOALS IN THE EASTERN SEAS:—*Ships struck.*

THE following accounts of two dangerous shoals in the China and Java seas have been presented to us by that enlightened hydrographer Capt. Horsburgh:—

OMEGA SHOAL, although not far distant from Batavia, had escaped the notice of navigators, until discovered by Capt. Russell, of the American ship Omega, according to the following account which he has transmitted.

The ship Omega, under my command, in March, 1835, struck on a coral shoal, and remained on it 25 hours, beat off her rudder, and received some damage in her bottom; she was got off by throwing cargo overboard to the value of about 15,000 dollars; and she was obliged to be hove down at Onruth, near Batavia, for repairs.

This shoal is steep to, extends N.N.E. and S.S.W. 150 to 200 yards, and about 70 in breadth; with from 10 to 13 feet water, and bears about E. by S. from the south end of the North Watcher, distant one mile and a quarter. There is a channel between the island and the shoal, with 12 fathoms water.

OWEN SHOAL, in lat.  $8^{\circ} 8'$  N. lon.  $112^{\circ}$  E. by two chronometers agreeing, in a run of ten days from Macao, has been discovered in May, 1835, by Capt. Owen of the ship David Scott, on her passage from Canton to England. She struck on it at noon, steering S.S.E. having had soundings at 6 to  $4\frac{1}{2}$ , and once  $3\frac{1}{2}$  fathoms, and at 1 P.M. she cleared the shoal, having then no bottom. This shoal appeared to be about two miles in extent, composed of black and white speckled coral, and seemed to be in a state of rapid accretion, from the vitality and energy of the madrepores in the recent formations of large pieces of coral brought up by the lead. While crossing the shoal, the patches of variegated coral were bright and alarming, but no breakers were perceived, as the sea was then very smooth. In stormy weather, however, when the sea runs high, they probably break, and a large ship would be liable to strike.

## DANGER NEAR THE EQUATOR IN THE ATLANTIC.

*To the Editor of the Nautical Magazine.*

London, 2d Oct. 1835.

SIR—Your respected correspondent, Capt. Middleton, has added to the obligations which he has conferred on navigators by his communication of a danger near the line, in your number for October, with his remarks thereon. There certainly appears to be reason for believing that other dangers may exist to the eastward,

NO. 45.—VOL. IV.

4 M



and perhaps it may not be amiss to take them in order, with the authorities, as they appear from west to east. They are all included between the equator and the parallel of  $3^{\circ}$  south, and between the meridians of  $23\frac{1}{2}$  and  $17\frac{1}{2}$  west.

The first in order, from the west, is the *Crown*, described in your number for October, as above-mentioned.

The next, at about 140 miles eastward from the *Crown*, is the *Aquila*, if existing. On the 12th of April, 1831, the *Aquila* of Scarboro', capt. John Taylor, was in latitude  $0^{\circ} 22' 15''$  S. and long.  $21^{\circ} 6' 30''$  W. light winds and fine pleasant weather. At 40 minutes P.M., the water being very smooth, and the ship going at the rate of five knots, a loud rumbling noise was heard under her bottom, and a sensation felt exactly like that of a vessel sliding over a rock; the rudder was so much agitated, that the man who was steering could scarcely hold the wheel. No difference could be observed in the colour of the water, nor the smallest rippling. The captain concluded, at first, it must have been a rock; but after arriving in London, there was not, on examination, the least sign of any rub on the copper; and it was concluded that there must have been, in the spot above-mentioned, a volcanic eruption, the shock of which did not exceed 15 seconds.

The situation of the *Aquila* was very near that of the *Silhouette* in 1754. On the 5th of February, 1754, the people on board this ship, commanded by M. Pintault, felt a shock, or violent agitation, as if the vessel had touched upon a shoal; it was about five P.M. and, from the latitude taken by that very day's observation, this dangerous spot appeared to be twenty minutes to the southward of the line, in long. about  $20^{\circ} 50'$  W. computed by reckoning from Praya in the Isle of St. Jago. But, in this instance, as the long. was not determined, it is very likely to be more to the west. On the 13th of April, 1758, the frigate *La Fidele*, M. le Houx, commander, felt also the like shocks in 20 minutes south, and  $18^{\circ}$  W.

On the 3rd of May, 1761, *Le Vaillant*, capt. Bouvet, about 1 P.M. saw a *small sandy island*, which bore N. by E. The latitude by the reckoning at noon was about 23 minutes south, and their longitude, reckoned from the sight of Ferro Island, which they made on the 8th of April, was about  $19^{\circ} 10'$  W.

Had this sandy island continued to exist, there cannot be a doubt that it must have been since seen.

On the 17th of October, 1747, the ship *Le Prince*, capt. Beaubriant, on her passage to India, felt one or two shocks, as if she had struck upon a shelf. She was at that time in latitude  $1^{\circ} 35'$  S. and about  $17^{\circ} 50'$  W. long., reckoned from the sight they had of the Isle of Brava. (For the remarks made in the French ships, we are indebted to M. D'Après.)

We now come to the *Triton's Bank*, passed over by capt. Proudfoot, in the ship *Triton*, from Calcutta to Gibraltar, on the 8th of



December, 1816, in lat.  $0^{\circ} 32' S.$  and long.  $17^{\circ} 46'.$  It appeared to extend in an east and west direction, three miles; and in a north and south direction one mile. They sounded in 23 fathoms, brown sand; saw no appearance of breakers.

The last which we have to notice is the submarine volcano seen by admiral von Krusenstern, in 1806, and described by that officer as follows: "On the 19th of May, 1806, at five in the evening, "we saw, in lat.  $2^{\circ} 43' S.$  and long.  $20^{\circ} 35' W.$  in the direction of N.N.W., and at the distance of about 12 or 15 miles, a singular phenomenon; but which, owing to the lateness of the day, we were unable to examine sufficiently close to ascertain the nature of it. A cloud of smoke arose to about the height of a ship's mast; disappeared suddenly; then arose again, and vanished entirely. It could not be a water-spout, nor a ship on fire, as some persons on board conceived, for the smoke rose much too high; and Dr. Horner was of opinion, that, if the whole was not an ocular deception, occasioned by a peculiar refraction of the rays of light, it had all the appearance of a volcanic eruption, and was possibly the forerunner of an island." Its true long. is probably  $20^{\circ} 44' W.$

From what has been stated, there cannot be a doubt that submarine volcanoes have existed in these regions, producing temporary dangers. The indications of such a one was seen, as noticed by lieut. John Evans, on the first of May, 1824, in about  $7^{\circ} N.$  and  $21^{\circ} 50' W.$  The indications were, a hissing noise and bubbling up of the waves, resembling the ebullition of boiling water, and whitened with foam.

The readers of the Nautical Magazine need not to be reminded of the production of an islet (Sabrina) thrown up at the west end of St. Michael's, in 1811; nor of that (Graham's) of the S.W. side of Sicily, in 1831, both of which have disappeared; nor that, in the vicinity of the latter, some dangers, formerly existing, may no longer appear; while others have been formed, which have heretofore been, and probably until this time may be, unknown—phenomena analogous to those of the tropical region.

I am respectfully, sir,  
your obedient servant,

JOHN PURDY.

*To the Editor of the Nautical Magazine.*

SIR,

20th October, 1835.

Since I addressed you on the 2d. inst. on the subject of dangers near the line, I have received a notice from an intelligent mercantile commander, stating, that, on the coral bank, examined by capt. W. H. Smyth to the north of Trapani. there is a reef, of only 14 feet, exactly where the chart indicates 27 fathoms.

This may perhaps strengthen the argument already adduced, and ought at least to be generally known.



The lat. of the shoal as given by capt. Smyth is  $38^{\circ} 28'$  and its long.  $12^{\circ} 27'$ . Soundings at about a league to the N.W. 189, to the E. 200, and to the S. 157 fathoms.

JOHN PURDY.

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REMARKS UPON THE APPEARANCE OF THE LAND ON THE GOLD COAST, from the Dutch Fort of Bantry to Cape St. Paul, the Ship standing along within five and six miles of the shore. By Captain R. Wauchope, R.N., H.M.S. *Thalia*.

To the eastward of Fort Bantry, the fort of Secondee is seen. Its appearance from the sea is that of considerable strength; it stands close to the water, built upon a bank of horizontally-stratified sand-stone, of a reddish colour, surrounded on all sides, except that of the sea, by thick wood. A sandy, narrow beach stretches to the east and west of it. The bare rock again appears at the termination of the beach to the eastward, and is seen in several places within eight or ten miles from the fort, in this direction, and then a densely-wooded coast.

The next fort is the Dutch fort of St. Sebastian at Chama, or Assina. This is a large white fort, surrounded by natives' huts, having a long narrow strip of white sandy beach to the west of it: the beach is broken to the eastward for above three miles, by the wood extending to the water's edge, when again a long narrow beach continues for eight or ten miles, and the red cliff is seen bare of vegetation in several places. The land not high, but entirely covered with low wood.

The next fort is that of the British fort of Commenda, or rather the two forts. They may be seen at the same time with Chama. One of the forts, of a dark-grey stone, a square building, seemed to be in tolerable repair; the other, about a mile to the eastward, was a complete ruin. A number of native huts were near the forts, and a great number of canoes were hauled up on the beach.

From thence to the eastward, the two large and magnificent-looking forts (Dutch) of St. George del Mina make their appearance, as if newly whitewashed, and are of a dazzling white. On approaching them, we observed, about half a mile apart, two other small forts, the one to the westward being round, and the other square. The western large fort is situated upon a rising, rocky ground, about seventy feet above the level of the sea. The east large fort stands on the beach, in the middle of a considerable sized village. Some of the houses are of stone, but chiefly miserable-looking huts. To the eastward of Del Mina, the same low undulating wooded line of coast stretched along with a narrow strip of sandy beach.

Soon after Del Mina is clearly made out, the round whitewashed tower (Phipp's Tower) of Cape Coast Castle is seen rising magnificently from the sea; it is built upon rising ground to the rear of the castle, and is the first object which is seen. On approaching,



the handsome and extensive castle of Cape Coast is clearly seen; and, on landing, the interior does not disappoint expectation, as the whole of the buildings are in admirable repair. A few miles to the eastward of Cape Coast Castle, the ruined English fort of Moree is seen. The mud huts of the natives still surround the square brown ruin. Still further to the eastward, the small English whitewashed fort of Annamaboa is seen. The appearance of the coast is similar to what we have already passed, viz. a narrow sandy beach, rocky in some places, and low undulating hills, covered with low underwood, behind.

A few miles to the eastward, is the ruined square, brown Dutch fort of Cormantine, situated on a pretty rocky green hill, close to the sea. The natives' huts extend to the westward of the fort, and to the eastward, the same description of coast as that above mentioned. At five leagues to the eastward of Cormantine, Tantumquerry point is seen; it is low and rocky. There is a reef of rocks lying about a mile to the north-east, on which the sea was breaking when we passed it. On first seeing the point, one fort only is observed; on approaching, another square brown fort, nearly joining the former, is seen, and the low land becomes visible beyond the Devil's Hill, which is the highest hill on the coast between Cape Three Points and Accra.

When abreast of Tantumquerry point, the Fort of Apam is seen to the left of Devil's Hill; a brown ruin of considerable size. A large native village surrounds it, except to seaward. Along this whole line of coast (for we have run it down within from four to six miles) there are native villages to be seen at intervals, consisting of thatched mud huts. The next fort is the English fort of Winabah, now in ruins. When abreast of this, you can just see Tantumquerry Point, and the fort, to the westward, and Barracoa Point to the eastward. Winabah stands upon a low line of hills, having nothing particular to mark it, except a whitewashed thatched house of considerable size on the beach, and the ruins of a fort a little to the left. There is high land in the distance.

The next point is Barracoa Point, with a very remarkable palm tree upon it; and to the eastward of it, considerably higher than the low land, the peculiarly-shaped double hill, called the Paps, is seen in the distance: this and the palm tree point out its situation very distinctly. On nearing the point, the fort, and flagstaff, and native village, are seen, and the distant coast beyond, terminating in a very low point.

On rounding Barracoa point, the Paps are much more distinctly seen, being much nearer; and the remarkable hill called Cook's Loaf, a conspicuous round hill, is seen close to the sea.

The land to the west of Cook's Loaf appears very low, and to run out to a very low point, having still the same narrow strip of sandy beach; and on the point the three white forts of Accra are



seen, and a fourth, the Danish, three miles to the eastward. The English and Dutch are within a mile of each other; so that the coast about Accra is particularly well marked.

We sailed from this on the 17th November, and on the 18th hauled in for the land, and found ourselves in the morning abreast of Ningo, a Danish fort. It is a good-looking whitewashed fort, apparently in good repair, about seven miles off shore. The water shoals to seven and six fathoms; a little further out, twelve, thirteen, and fourteen fathoms; and all the land seen to the eastward appears very low indeed.

The marks for Ningo in the Sailing Directory are some hillocks to the eastward, and the high conical mountain of Ningo Grande inland; the hillocks I could not make out clearly. When abreast of Ningo, a small white fort is seen to the westward, which is, I suppose, the English fort of Prampram. There is the same narrow line of sandy beach, as we have observed all along, to the westward of Prampram still. Another whitewashed house, or fort, may be seen when abreast of Ningo. To the eastward, the tops of trees are only to be seen, the land being so low. Six and seven miles from the shore, the soundings along the coast are eleven to thirteen and fourteen fathoms; coarse sand, and in some places rocky bottom.

A great quantity of seaweed was seen to the eastward of Ningo, the first we met with on the coast. The ship's place, by observation at noon to-day, placed her several miles on shore by the Admiralty chart. Abeam of us, about 1 P.M. some miles to the eastward of Ningo, observed a flagstaff, and two large thatched houses; a number of naked negroes; and on the beach was a great deal of surf. The wood on the coast here consists chiefly of a peculiar kind of palm, the stem similar to the cocoa-nut tree, but the upper part more bushy, and similar in appearance to the silver tree at the Cape.

At 3 P.M. 18th November, saw the mouth of the river Volta, bearing N.N.W. It is on this bearing alone upon which it can be seen. The two bluff heads at the entrance appear very bold, and make the mouth of the river very obvious. In standing along to the eastward, the entrance was not seen above five minutes, as it was soon shut in by the eastern bluff.

The whole coast to the eastward of the Volta, to Cape St. Paul, is very low; nothing but trees are seen. In nine fathoms and a half off the cape this is its appearance; nor could the cape itself be made out, except from the trending away of the land to the northward.

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#### IMPROVEMENT IN THE LIGHT OF INCHKEITH LIGHTHOUSE.

THE Commissioners of the northern lighthouses hereby give notice, that from this date (Thursday the 1st October, 1835) the *Reflect-*



*ing Light* on the *Island of Inchkeith*, situated in the Frith of Forth, will be discontinued, and a *Dioptric Light* exhibited in its place.

The new apparatus, and the appearance of the light, are thus described by Mr. Alan Stevenson, under whose direction it has been constructed :—

The new apparatus at Inchkeith Lighthouse belongs to the second order of the Dioptric System of the late eminent Fresnel; and consists of Seven Annular Lenses, which circulate round a lamp of three concentric wicks, and produce Bright Flashes once in every minute; and of Five Rows of Curved Mirrors, which, being fixed, serve to prolong the duration of the flashes from the lenses. The appearance of the new light does not, therefore, materially differ from that of the former one, excepting that the flashes, which recur at the same periods, are considerably more brilliant, and of shorter duration. In clear weather, the light is not totally eclipsed between the flashes, at a distance of four or five miles.

By order of the Commissioners of the Northern Lighthouses,  
C. CUNINGHAM, Secretary.  
*Edinburgh, October 1, 1835.*

#### NEW LIGHTHOUSE OF CAYEUX, *Department of the Somme.*

(Received from the French Government.)

NOTICE is hereby given, that from the 1st of December next, the Fixed Light of the old small tower of Cayeux, situated on the south side of the mouth of the Somme, in lat.  $50^{\circ} 11' 30''$ , and long.  $0^{\circ} 50' W.$  (from Paris,) will be discontinued, and that a light varied by Flashes will be substituted for it, which will be shewn every night from the tower recently constructed eighty metres south-east from the old light.

The new light will be established at twenty-eight metres\* above high-water of the equinoctial and spring tides.

The flashes having a duration of from eight to ten seconds, will succeed each other every four minutes.

The faint light which will be perceived during the intervals, will be preceded and followed by very short eclipses. The light will be seen in fine weather at the distance of five leagues.

This new light will easily be distinguished from that on Cape d'Ailly, the flashes of which succeed each other three times more rapidly, and are separated by total eclipses. It may be further remarked, that the small lights at the entrance of the port of Dieppe, about five miles to the eastward of the lighthouse of Ailly, will assist in preventing any chance of mistakes.

*Hydrographical Office, Admiralty, Sept. 29, 1835.*

\* 91·9 English feet.



**NORTHERN LIGHTHOUSES.—Descriptive List of the Lighthouses,  
Northern Lighthouses, by Robert Stevenson, Engineer to the**

**LIGHTHOUSES.**

NAME OF LIGHT.	SITUATION OF LIGHT.	No. of Lighth.	APPEARANCE OF LIGHT.
Inchkeith -	Highest Land on the Island of Inchkeith, in Fifeshire	One	Revolving, and appearing at its brightest once every minute - - - - -
Isle of May -	Highest Land on Isle of May, in Fifeshire - - -	One	Fixed - - - - -
Bell Rock -	Bell Rock, a sunk reef, 11½ miles S. by E. ¼ E. off Arbroath, in Forfarshire -	One	Revolving, and shewing alternately a red and white light every two minutes -
Girdleness -	Girdleness, Kincardineshir.	Two	Fixed Lights, one above the other -
Buchanness -	Buchanness, Aberdeenshire	One	Flashing once every five seconds -
Kinnairdhead -	Kinnairdhead, Aberdeensh.	One	Fixed - - - - -
Tarbetness -	Tarbetness, Cromartysire	One	Intermittent, suddenly bursting into view, and continuing in sight 2½ min., then suddenly eclipsed for half a minute -
Dunnethead -	Dunnethead, most northern point of the Mainland of Scotland, Caithness-shire	One	Fixed - - - - -
Pentland Skerries	Pentland Skerries l. Orkney	Two	Fixed, and 100 feet apart - - - - -
Start Point -	Start Point, Sanday Island, the most eastern pt. Orkney	One	Revolving, and appearing in its brightest state once every minute - - - - -
Sumburghhead	The most southern Headland of Zetland - - -	One	Fixed - - - - -
Cape Wrath -	Cape Wrath, north western Headland of Sutherland.	One	Revolving, and shewing alternately a red and white light every two minutes -
Island Glass -	Island Glass, one of the Harris Isles, Inverness-shire	One	Fixed - - - - -
Barrhead -	Highest Land on Bernera Island, Inverness-shire	One	Intermittent, suddenly bursting into view, and continuing in sight 2½ min., then suddenly eclipsed for half a minute -
Lismore -	Mousedale, small Island off Lismore, Argyleshire -	One	Fixed - - - - -
Rhine of Islay	Oversey, small Island off Islay, Argyleshire -	One	Flashing once every five seconds -
Mull of Kintyre	South-western Headland of Argyleshire - - -	One	Fixed - - - - -
Pladda -	Pladda Isle, off south-east point of Arran, county Bute	Two	Fixed, the one above the other - -
Corsewall -	Western entrance to Loch Ryan, in Wigtonshire -	One	Revolving, and shewing alternately a red and white light every two minutes -
Mull of Galloway	Southern extremity of the Mainland of Scotland, Wigtonshire - - -	One	Intermittent, suddenly bursting into view, and continuing in sight 2½ min., then suddenly eclipsed for half a minute -
Point of Ayre	Northern extremity of Isle of Man - - - - -	One	Revolving, and shewing alternately a red and white light every two minutes -
Calf of Man -	West side Calf Island, at the southern extremity of l. Man	Two	Revolving, and shewing white lights every two minutes - - - - -

**BEACONS.**

NAME OF BEACON.	SITUATION OF BEACON.	No. of Beacons	APPEARANCE OF BEACON.
Carr Rock -	Carr Rock, 1½ miles off Fife Ness, County of Fife -	One	Beacon of stone, with iron frame and ball - - - - -
North Ronaldsay	The most northern point of the Isl. of North Ronaldsay, Orkney	One	Beacon of stone, surmounted by a ball of masonry eight feet in diameter -

*Note.* The Distances at which the Lights and Beacons can be seen are calculated on the supposition

**BUOYS.**

NAME OF THE BUOY	SITUATION.	No. of Buoys.	APPEARANCE.
Gunnat Rocks -	Frith of Forth	Two	Painted white - - - - -
Pallas Rock -	" "	One	Painted with black and white stripes -
Harwit Rock -	" "	One	Black - - - - -
Craig Waugh Rock -	" "	One	Red - - - - -
North Craig Rock -	" "	One	Coppered, with a mast placed on it. Painted and chequered red and white - - -

*Edinburgh, 1st January, 1835.*



*Beacons, and Buoys, belonging to the Commissioners of the Lighthouse Board. 1835.*

LIGHTHOUSES.

Distance visible in Nautic Miles.	POINTS OF COMPASS WITHIN WHICH VISIBLE.	Height of Lantern in feet above High Water Spring Tds.	North Latitude	West Longitude	Date of First Exhibition.
18	All round the Compass - - - - -	220	56 1	3 1	1804
21	All round the Compass - - - - -	240	56 11	2 33	1816
14	All round the Compass - - - - -	90	56 26	2 23	1811
19 and 16	From N. N. E. to W. S. W. $\frac{1}{4}$ W. Easterly and Southerly	185 & 115	57 8	2 3	1833
16	From N. by E. to S. W. by W. Easterly - - -	130	57 23	1 46	1827
15	From W. N. W. to S. E. Northerly - - -	120	57 42	2 0	1767
18	From S. W. $\frac{1}{4}$ W. to W. $\frac{1}{4}$ N. Easterly - - -	175	57 51	3 48	1830
23	From S. E. $\frac{1}{4}$ E. to W. Northerly - - -	346	58 41	3 22	1831
16 and 18	All round the Compass - - - - -	140 & 170	58 42	2 55	1794
15	All round the Compass - - - - -	100	59 18	2 24	1806
22	From N. E. by E. $\frac{1}{4}$ E. to N. W. by N. $\frac{1}{4}$ N. Southerly	300	59 53	1 17	1821
25	From S. E. $\frac{1}{4}$ E. to S. W. by W. Northerly - -	400	58 37	5 0	1828
16	From W. by S. to E. N. E. $\frac{1}{4}$ E. Southerly - -	130	57 50	6 33	1789
32	From N. by E. to E. N. E. Westerly and Southerly	680	56 48	7 38	1833
15	From E. to N. E. by E. $\frac{1}{4}$ E. Westerly - - -	103	56 30	5 40	1833
17	From N. N. E. to S. E. Southerly - - -	150	55 41	6 29	1825
22	From N. N. E. $\frac{1}{4}$ E. to S. by W. $\frac{1}{4}$ W. Southerly -	297	55 19	5 49	1787
13 and 16	From N. W. by W. to N. E. by E. Southerly -	77 & 130	55 30	5 0	1790
15	From N. E. by E. to S. W. Northerly - - -	112	55 1	5 5	1817
23	From N. E. to N. W. $\frac{1}{4}$ W. Southerly - - -	325	54 38	4 52	1830
15	From S. by W. to W. by N. Northerly - - -	106	54 28	4 23	1818
22 & 24	From N. E. $\frac{1}{4}$ E. to S. W. $\frac{1}{4}$ W. Southerly - -	275 & 368	54 3	4 50	1818

BEACONS.

Distance visible in Nautic Miles.		Height of Top above High Water of Spr. Tides	North Latitude.	West Longitude.	Date of First Exhib.
9	- - - - -	25	56 17	2 35	1822
13	- - - - -	70	59 40	2 15	1809

that the Observer's eye is 15 feet above the level of the Sea at High-Water of ordinary Spring-Tides.

BUOYS.

BEARINGS AND DEPTH OF WATER.	
One and a half mile, bearing per compass W. $\frac{1}{4}$ N. off Inchkeith Lighthouse, on which there is eight feet at low-water, spring-tides.	
Three quarters of a mile, bearing per compass W. by S. off Inchkeith Lighthouse, on which there is 10 $\frac{1}{2}$ feet at low-water, spring-tides.	
One and a quarter mile, bearing per compass S. by E. $\frac{1}{4}$ E. off Inchkeith Lighthouse, on which there is 6 feet at low-water, spring-tides.	
2 $\frac{1}{2}$ miles, bearing per compass S. by E. $\frac{1}{4}$ E. off Inchkeith Lighthouse, on which there is 3 feet at low-water, spring-tides.	
2 $\frac{1}{2}$ miles, bearing per compass S. E. by S. $\frac{1}{4}$ E. off Inchkeith Lighthouse, on which there is 19 feet at low-water, spring-tides.	

By order of the Commissioners of the Northern Lighthouses, C. CUNNINGHAM, Secretary.  
NO. 45.—VOL. IV. 4 N



## BIOGRAPHICAL ACCOUNT OF HENRY HADLEY.

HENRY HADLEY was the youngest of the family, there being an interval of ten years between him and his third sister Elizabeth. He was born in London, June 24th, 1697, and was christened on the 5th of the following July at St. Ann's, Soho. All his brothers and sisters had been baptised by Dr. Sharpe, rector of St. Giles's, and no reason has been discovered for this difference. He probably derived his christian name from Henry Thynne,\* Esq., who was one of his godfathers; but it is remarkable, that, when these dates, which were taken from his father's memorandum-book, were compared with the parish registers, it was found that he was entered in them by the name of William. Mr. Thynne did not attend the ceremony, but was represented by William Freeman, esq. This may have been the source of the mistake, but if it was, it must have been purely accidental, and the family were either not aware of it, or at least did not think it worth attention. Henry is the name by which he is designated in his father's will, it is the name which he uniformly signed, and there is no reason for supposing that he was ever known by any other.

On the 25th of April, 1713, he became a member of Oriel College, Oxford,† but he left the university in December, 1715, and went to Leyden to study medicine. This is clear from a publication, entitled "*Dissertatio Medica inauguralis de Balsamo Peruviano, quam . . . pro gradu doctoratus, summisque in Medicina honoribus et privilegiis rite et legitime consequendis eruditorum examini subjicit Henricus Hadley Anglus ad diem 5, Decemb., 1718.*" It is dedicated,—

"D.D. Georgio Hadley Armigero, patri suo carississimo et indulgentissimo omni cultu, ac pietate filiali ad diem usque supremum prosequendo."

"D.D. H. Sloan Baronetto serenissimi regis Britanniae archiatro." . . .

"D.D. Baroni de Albedyll Livono . . . amico suo familiarissimo et dignissimo." . . .

The two first of these names prove the identity of the individual author, and, although no notices have been discovered of the person designated by the third, it may hereafter be the means of tracing out the connection which Henry Hadley made in later life with a family on the continent.

At the conclusion of the dissertation he states, "*hæc ita invicem comparata, minus accurate confiteor, sufficere necesse est.* Tem-

\* The Hon. Henry Thynne, son of the first Viscount Weymouth, married Grace, the only daughter of Lady Strode, who by his mother's side was the aunt of Henry Hadley. (Hutchins's Hist. of Dorsetshire, vol. iv. pp. 11, 12.) There can be little doubt of his being the individual above mentioned, especially as Sir George Strode was the other godfather.

† This name was inserted in the matriculation books of the university, May 21.



poris enim brevitās, dum res meæ instantē in patriam revocant, necnon eruditionis meæ tenuitas finem his Thesibus imponere cogunt." In the Journals of the Royal Society there is a minute of "Dr. Hadley" having leave to be present at the meeting on the 24th of December, 1719, from which it fairly may be inferred that he had then returned to England, according to his intention, and that (although only now twenty-two years of age) he took the title of the degree which he had brought with him from Leyden. John Hadley was at this time engaged in the construction of reflecting telescopes, and Henry joined in pursuing this great object. We have no direct evidence of his manual co-operation in making the first quadrants; but if this part of the construction fell wholly to his brother George, he had the honour of sharing, at the Nore, in the trial which established the practical excellence of the instrument. He appears also to have done his work well on the occasion, for Bradley says, in his letter to John Hadley,\* the "series of observations made by your brother, seems to intimate that a practised seaman may yet observe more accurately than either of us." This was the more creditable to him, for George Hadley, in his pamphlet on the quadrant,† describes the observations as being of a nature to "which the gentlemen who made them were altogether unaccustomed."

About 1730 (certainly not later) he married his first wife. Her name was Ann, and she was a Dutch lady, with whom he possibly became acquainted while pursuing his medical studies in Holland. Her family is not known; but in the third codicil to his will, H. Hadley leaves £10 to Professor Hoffmann of Hall in Saxony. This is the only foreigner whom he mentions in that instrument, and he makes the money payable, in case of the professor's death, to "his heirs at law," which circumstance, coupled with the amount of the legacy, would seem to indicate some family-feeling rather than a mere personal regard for the individual, for whom it was in the first place intended.

His father having died in 1729; he was now in possession of his patrimony, and, although it is not known that it was so, it is possible that his marriage may have been attended with some increase of income; but, on the other hand, it is probable that he did not succeed in his profession, for in 1732 he appears to have abandoned the very title of it, being mentioned‡ at that time by his brother, in the Philosophical Transactions, as plain Mr. Henry Hadley. It became necessary, therefore, to provide in some other manner for the calls of an increasing family, and he entered into the service of the East India Company. In the beginning of 1740 he went to China|| as the fourth, in rank, of five super-cargoes on board the ships

\* Miscellaneous Works p. 506.

† p. 21.

‡ Vol. xxxvii. p. 349, &c.

|| Mr. Hadley of Colchester had a dinner service of Indian porcelain with the family arms on it; this was probably procured by his uncle in one of his voyages to China.



Godolphin and Northampton; in 1743 he rose to be second, and in 1747 he became first in rank of those who in this manner were employed with him. He went out again in the end of 1748 or beginning of 1749, and may have continued longer in the employ, as he certainly accumulated a very considerable property from it. He appears, at the same time, to have had a scrupulous regard for the interest of those for whom he acted; he even added in a codicil to his will that he gave £10 to the East India Company, "on account," as he says "of a surplus of about £4 falling by accident into my hands upon one of my voyages returning from China."\*

His note, which has been referred to in the history of the quadrant, as being preserved among Sir Hans Sloane's papers, accompanied some specimens for the museum of that munificent collector, and it expresses a wish that any could have been procured more worthy the acceptance of one "to whom I shall always look upon myself as under particular obligations." It is dated from Warwick-court,† in 1742, and there is also a communication (in the British Museum) to Dr. Birch, which shews that, in 1759, he was still resident in the same place. His first wife died in March, 1755; at what time he married his second (Sarah) is uncertain, but it appears that he lost her between November 1767 and June 1769. He had then removed to Coney-court, the largest of the old quadrangles in Gray's Inn, where he died March 18th, 1771. No record, however, is there to be traced of him; his remains were interred at East Barnet on the 25th of the same month, probably near those of his parents and brother, but no monument was erected to mark the place.

Henry Hadley does not appear to have vested any of his money in land, but his personal property was considerable, as he disposes specifically in his will of about £15,000. It is clear that these were not mere nominal bequests; for the larger sums are charged on particular funds, and, the will having been executed in 1769, a codicil was afterwards added to it, for the disposal of an additional £500 purchased in the 3 per cent cons. in June, 1770. A legacy of 3500, 3 per cent reduced, is left for her life to Mary Fuller, the niece of his "late wife," but nothing more is mentioned which suggests any clew to the discovery of her connections unless the particular bequests to James Waters, a silversmith in Foster-lane, to his wife and her three sisters, (of the name of Cooling,) can be supposed to refer to it. There is no intimation of this second marriage having been a source of increase to his family; but by his first he had three sons, to whom he gave the names of his brothers and himself—calling them John, George, and Henry.

Of the youngest nothing has been discovered, excepting that he

\* He likewise, at the same time, gave £150 to Poplar Hospital, possibly as an additional means of relief to conscientious feelings.

† Near St. Paul's.



was brought up a surgeon, and died before the middle of 1769, possibly some years sooner.

John, the eldest son, a man of great promise, who, if his life had been prolonged, might have sustained the honour of the name, was born in London, about 1731, and became a member of Queen's College, Cambridge, in May 1749. In 1753 he took his degree of B.A., having been fifth wrangler at the previous examination. In January, 1756, he was elected fellow of his college, and in the following July proceeded to his degree of M.A. In this year he became professor of chemistry, and, in consequence, printed the "Plan of a Course of Chemical Lectures," (Camb. 8vo., 1758.) There is also in the possession of professor Cumming of Cambridge a 4to. vol. in his hand-writing, entitled, "An Introduction to Chemistry, being the substance of a Course of Lectures read two years successively at the laboratory in Cambridge, 1759;" but these public duties did not prevent his attention to business in college, where he discharged several offices in connection with the instruction of the junior members.

In 1758 he became F.R.S., and there is in the British Museum a note in which his father announces to Dr. Birch that "Dr. Hadley is a candidate to succeed Mr. Davall as secretary to the Royal Society." This was written in October, 1759, but he did not take the degree of D.M. till the beginning of 1763. The Cambridge graduate-book does not mention when he became B.M. but it was probably before this time, which will account for the title which his father gives him. This is confirmed by his having become, in 1760, assistant physician at St. Thomas's hospital. His prospects in London seem to have opened most favourably; in 1763 he was elected physician to the\* Charterhouse; he became also Fellow of the College of Physicians; but all was soon closed by his death, which was occasioned by a violent fever, and took place in the night of Nov. 4th,† 1764. There are several notes in the British Museum, written by him to Dr. Birch, which are dated from Bow-lane, Warwick-court, and his last residence the Charter-House, where he died.

The 54th vol. of the Philosophical Transactions contains an account‡ which Dr. Hadley drew up of "a mummy inspected in London, in 1763," communicated in a letter to Dr. William Heberden, who had been one of the friends to whom he was indebted for signing the certificate on which he was elected into the Royal Society. This paper was read Jan. 12th, 1764, and on Feb. 2d "he presented to the Society an elegant drawing of the left foot of the

\* This gives a presumption in favour of his having been brought up there. The interest felt by the Yorke family for archdeacon Cox may also have assisted in promoting his election.

† The obituary of the Royal Society dates his death on the 5th: Monday is the day mentioned in Cole's M.S.S. The difference may be reconciled by supposing that his death took place after midnight. In the books of Queen's College, the event is dated Nov. 6, the day, probably, on which the news reached Cambridge.

‡ P. I.



Society's mummy; the sole of the foot, with the bulbous root applied to it, being presented to the view."

There is a portrait of him engraved after his death in mezzotinto by Fisher, from a painting of B. Wilson in 1759; and his features bear no resemblance whatever to those of his uncle. It was a private plate, and mention is made in the *Gentleman's Magazine*† of a drawing, in which a likeness of him is introduced: in the same part of that collection he is spoken of as having been the intimate friend of the poet Gray; and Dr. Plumtree, president of his college, in recording the vacancy of the fellowship,|| which was occasioned by his death, added a note to say that "he was an ingenious, worthy, and agreeable man, and died much lamented by all who knew him."§

George, the second, was the only son of Henry Hadley who survived him. He was dead in 1799; but although he inherited £3000, and the additional reversion of £5,500, with jewels, plate, and the residue of his father's property, he appears to have died in penury, for his cousin was in the habit of allowing a little annuity of £10 to his widow Elizabeth who, in 1811, was lodging in a small house (No. 36, Church-street, Soho). Mr. John Hadley, of Colchester, was godfather to their eldest daughter, who, in consequence, was christened by the singular denomination of Caroline-John; she married first a Mr. Langworthy, and afterwards (between 1799 and 1805) a Mr. De la Lande. This is all that has been clearly ascertained with respect to this part of the family; but Mr. George Hadley is said, during the later years of his life, to have taught the Oriental languages in London, which, combined with other circumstances makes it probable that he was the same individual of that name who died in Gloucester-street, Queen-square, in September, 1798. This gentleman was author of several introductory works on the Persian and Hindoo languages. One of these is entitled "Grammatical Researches on the Practical and Vulgar Dialect of the Indoostan Language;" and in the dedication of it to the East India Company, the author says, that in 1764, he obtained, by favour of Mr. Vansittart, an appointment to the Sepoys, and was afterwards honoured by Lord Clive with the command of a battalion, in consequence of steady attachment to the government at a critical juncture, when such an instance of fidelity was highly acceptable to the administration of Bengal. Now, Henry Hadley's engagement in the China trade would not only have naturally turned his views to the East Indies for his son's establishment, but would most probably have procured him those friends by whose assistance such an establish-

† Vol. lxxxiv. Part I. p. 427.

|| Bishop Watson was his immediate successor in the Chemical chair.

§ After his death his library was sold by auction. It contained a considerable number of Chinese books; but it may be doubted whether they had been his own, or had been added by his father.



ment could be obtained. Again, Henry Hadley appointed no less than six executors of his will, all of whom were more or less interested in the distribution of his property, but his own son was not included in the number; which would agree well with his being then at a distance that would interfere with the probability of his being able to fulfil the duties attached to such a trust. There is another remarkable coincidence, for in the beginning of November, 1771, (between seven and eight months after the death of Henry Hadley, when the interval would have been sufficient for the news to reach the East Indies), this Mr. George Hadley obtained leave from the Bengal presidency to resign, and embark for England. Gilchrist\* describes his works as only containing an inaccurate collection of phrases from the barbarous jargon of uneducated natives; but although men of higher mind have now applied themselves to these studies, there might, sixty years ago, have been some subordinate claim to meritorious usefulness in collecting the humbler rudiments of a vocabulary. It seems probable that the individual became a teacher in London; and as no will of his, or letters of administration for his property, have been found in the Prerogative-office, he may be supposed to have been possessed of nothing at the time of his death. All these circumstances seem to indicate an identity between these George Hadleys; on the other hand, there is a "History of Kingston-upon-Hull," 4to. 1788, by the writer,† and we know of no connection which Henry Hadley's son had with that part of the country. Distressed men, however, sometimes lend a name to works which are not their own, and consequently this argument is not conclusive.

The uncertainty which has just been stated, and the failure in our endeavours to discover any other of Henry Hadley's descendants, is the more to be regretted, because all the elder branches of the family appear to be extinct. By looking over the table of pedigree, it may be seen that *s. p.* are not added to the name of Katherine Hadley, of whom we know nothing, but all the other lines from the second George Hadley, excepting these last, ultimately lead to individuals who have died *sine prole*. It is not impossible that the publication of the present imperfect narrative may be fortunately the means of eliciting what would not otherwise have been discovered. The family of Colonel Hodges‡ may exist, and be acquainted with many particulars; could the relations of Henry Hadley's second wife be found, they could most probably at least explain the difficulty about his son George; and it is not impossible that some traditions may yet be preserved by the D'Oyleys. It may at first sight appear visionary to expect any thing from such remote rela-

\* Dictionary, English and Hindoostanee, part I. preface, p. v, and Oriental Linguist, preface.

† He is described in the title-page as the author also of some poetical pieces.

‡ Mrs. Hodges was alive in December, 1751, for she is mentioned by Sir Hans Sloane in his will, which was executed at that time.



tions, but there is a circumstance which is not unfavourable to the possibility here alluded to. Sir William D'Oyley died in 1677, and his brother-in-law, George Hadley, seems to have had the principal care of his children. The third son was christened Hadley D'Oyley, and so was his son, who, on the failure of the elder branch, succeeded to the baronetcy in 1763. This, in itself, would not prove much, but Sir Hadley D'Oyley gave to his son who succeeded him in the title, the name of John Hadley, and the present baronet, Sir Charles, has a brother, who is also John Hadley D'Oyley; it may not, therefore, be too much for us to hope that the adherence to this name (marked in more recent times by such an emphatic addition) may indicate a recollection, which was studiously preserved, of the connection from which it was originally derived.

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\* \* \* It has been mentioned, that in the present endeavour to trace out the history of the Hadleys, there was nothing at first to afford any clew to the inquiry, excepting the simple fact of John's having died in 1744. It appeared also at some times that every probable source of information was exhausted, and yet others afterwards unexpectedly opened. Under these circumstances, it may be excusable to have given the best account which could be collected, although improvements might subsequently occur. It seems right, however, to add the following particulars, which were not discovered in time for their insertion in their proper places.

1st. It has been argued, from the parish in which his son's baptism was registered, that John Hadley, as well as his father, lived in Bloomsbury: this is now ascertained beyond a doubt. His house was in what was then considered as a continuation of Great Russell-street, but is now called Bloomsbury-place: it was on the north side, (the fifth according to the present numbering,) and formed the corner with Southampton-row. A few doors from him was the residence of John Hodges, Esq., most probably his brother-in-law.

2d. The letters from which Lysons collected the information for his *Environs of London*, were given by him to the British Museum. From these it appears that Hadley's woods at East Barnet were cut down soon after the property was sold by his son; that Mr. Kingston built Oak-Hill on the site of Monken Frith House; that Ussage House was near it, and was supposed to have been moated round. The Rev. Mr. Underhill says, that the foundation of it might be traced at the time when he was writing, (1795), and that some of the walls were standing eighty years before. This term, however, is rather indefinite, and it may be fairly doubted whether the building did not exist at a later period. Mr. George Hadley's memorandum book contains notices of what occurred in his concerns nearly to the time of his death in 1729; and though



much is there said in reference to building the house, there is nothing about pulling it down.

Lastly, Mr. Kingston mentions, that the quantity of land about Monken Frith House was 164 acres, exclusive of what he afterwards purchased at Ussage. Now, the lot containing John Hadley's mansion-house, which has been mentioned to have been purchased by Mr. Charles Bowker, contained altogether 346 acres, of which Ussage woods made 180. The difference is 166, which is sufficiently near to agree well with the identity of the property.

3d. The Newtonian telescope which Hadley gave to the Royal Society was of so much interest, that particular and repeated inquiries were of course made for it in the quarter where information was most likely to be obtained, and these were met by assurances of its not being now in their possession. The more bulky parts, the tube and stand, having been made of wood, had perished, and the rest had in consequence escaped notice. A general catalogue, however, was drawn up in November, 1734, of instruments and apparatus belonging to the Society, and a small box was found, containing Hadley's metal and eye pieces. The mirror is dull, being tarnished from age and long use; it also betrays the "dark spots" spoken of in the Philosophical Transactions, although they are neither so numerous nor so large as might be expected from the importance attached to them. The lenses are all set in wood, with apertures for the sight, of different sizes, proportioned to their focal dimensions.

4th. A letter has been found among the parish papers in the keeping of the rector of East Barnet, in which Mr. John Hadley, jun., consults Mr. Underwood about a couple of monuments which he thought of erecting, in remembrance of "two of his relations" who were buried there in the churchyard: it was written from Copford on Sept. 4, 1771. The epitaph on his father and mother evidently belongs, in separate parts, to the two events which it commemorates; and therefore the tomb was most probably raised originally to John Hadley by his widow, and the date of her death was added after her funeral. Besides, "relations" is too loose a description to be applied to parents, and consequently the two monuments seem to be those of Mr. Hadley's grandfather and Mrs. Cox. Mr. George Hadley survived his wife many years, and, as his name is mentioned in the inscription before her's, the gravestone is obviously later than his own time. Henry Hadley had been buried only a few months before the date of the letter; but he had left children, and his nephew's care might therefore have been naturally confined to the memory of his aunt.

This circumstance, of no great moment possibly in itself, is worthy of notice, because it shews that Mr. Hadley was not always regardless of what was due to the name which he had the honour to bear.



## THE TIME-BALL OF ST. HELENA.

IN our last number, we laid before our readers a description and drawing of the time-ball at Greenwich, and we have now prepared an account of the same kind of establishment at St. Helena. We say the same kind of establishment, because it is adapted to the same purpose; and, although its performance is not so perfect, arising from the imperfection of the machinery employed, it is yet sufficiently accurate to give general satisfaction. Before proceeding with our present object, we must not omit, however, to state, in justice to merit, that the system of giving the time by means of a signal, was proposed to the Lords Commissioners of the Admiralty as long ago as December, 1824, by Capt. Robert Wauchope,\* R.N.; but, whether the plan adopted in 1834 at Greenwich, as described in our last number, is similar in its detail to that proposed by Captain Wauchope, or whether he urged the adoption of his in the interval, we have not the means of knowing. However, we find by a printed document before us, that a plan was established at Portsmouth in 1830, and certainly the drawing on the plate which accompanies it represents a very inferior one, compared with that of the Greenwich time-ball, in which elegance and durability are combined on truly scientific principles.

The plan of communicating time by signal from observations, being coeval with the improvement of chronometers, is of recent date. The advantages of it are great to seamen, and it has been a matter of some surprise to us, that even within the few last years it has not been more generally adopted. We remember it to have been employed successfully by the Rev. Mr. Fallows, when he was astronomer at the Cape of Good Hope, about the year 1820. His plan was to eclipse a light at the moment of eight o'clock (mean time) by means of a shutter. The light was distinctly seen by the shipping in the roads, and the officers being on the look-out, were enabled to obtain a rate for their chronometers on board. In 1826 Captain William Owen, R.N., improved on this plan of Mr. Fallows', proposing to use rockets to communicate the time. The rockets were to be fired at a stated time every evening, and the instant of explosion was to be noted by the shipping, and at the observatory. The times of the observatory were to be published the next morning, and thence the rates of the chronometers were to be found. This plan, however, was objectionable, on the score of expense, and more so than that of Mr. Fallows, because it required delay to obtain the times, and we do not hear of its having been adopted any where.

At Portsmouth, the plan of giving the time is far from being

\* We believe Captain Wauchope had some idea of getting his plan established in other maritime states. We hope he may succeed.



perfect, and it has besides the additional disadvantage of being signalized twice over, instead of being communicated directly to the shipping. At the observatory in the dockyard, a shutter is let fall at the instant to be communicated, and this is observed and repeated from another station. Although the greatest care is taken to secure precision, it must not be expected that the limits of error in the signal would never exceed two-tenths of a second, like that at Greenwich; and we could wish that the first naval arsenal of this country was as well provided in this respect as the first observatory in the world.

We shall now extract from the Remarks of H. M. S. *Thalia*, Captain R. Wauchope, his account of the St. Helena Time-ball, on the arrival of that ship there in December last:—"On our arrival at St. Helena, after an eighteen days' passage from Prince's Island, we found my chronometer-signal established there. The ball drops at mean noon, St. Helena time, for the benefit of the inhabitants; and at one P.M. mean time at Greenwich, for the advantage of the shipping. The ball is hoisted half-mast high five minutes before the time, and at one minute before to the mast-head.

"It gives universal satisfaction both to the inhabitants and to all ships touching at the island; so much so, that I understood that several ships touched there in consequence of the signal, that otherwise would not have done so. On board the *Thalia*, we found the observations come out every day accurately to a second, which is much more correct than any observations that can be made by means of the sextant and artificial horizon."

We shall not stop to question this latter assertion, our object being to describe the apparatus, which we may briefly do as follows:—

- a*—The ball, half-mast high: a globe of canvas, 22 lbs. weight, and 2 ft. 8 in. diameter.
- b c*—The covering of the building in which the mast is fixed.
- c to d*—Imaginary, since the rope only goes from the roof to the floor of the cupola.
- e*—The stopper fixed to the floor, by which the ball is let fall.  
The figures *f* and *g* represent the stopper on a larger scale, the former as it is closed, ready for letting go the ball; the latter, as opened after the ball is down.
- h*—The whole mast-ring, or the eye in the rope, through which the tongue *e* of the stopper is passed, when the ball is hoisted to the masthead.
- i*—Half mast-ring, with 8 lbs. of lead attached, to check the fall of the ball when it reaches half mast high.
- k*—10 lbs. of lead, a second check when it reaches within two feet of the dome of the cupola, to prevent staving the ball, or injuring the dome.



The following notice was issued from the observatory at St. Helena, dated the 21st January, 1834 :—

To prevent mistakes, a *White Ball*, hoisted upon a Staff over the Observatory, will denote the time, agreeably to the following instructions :—

The ball will be hoisted half mast at *five* minutes, and close up at *two* minutes before *twelve o'clock*.

At the instant of the *Mean Time*, at noon of St. Helena, the ball will drop from the top of the Staff, when the gun will be fired at High Knoll.

The signal will be repeated at *one o'clock*, at the instant of *Greenwich mean time*, for the benefit of the shipping.

A ship wishing to correct her chronometers, and arriving after *one P.M.*, and not likely to remain the twenty-four hours, may hoist the "Blue Peter" at the main-topgallant mast-head, when the same method will be adopted at the next ensuing hour after the signal. Foreign ships to substitute their ensign for the "Blue Peter."

Should there be any uncertainty, and the ship wishes to have the signal repeated, she will dip the flag, and rehoist it, on observing the ball half-mast. The ball will again drop, at the ensuing quarter of the last hour.

Ships concealed from a view of the Observatory, will attend to the Repeating Ball at Ladder Hill, and in neither case is any allowance to be made for loss of time, since the astronomer will make the calculation of the few tenths required.

#### PADDLE WHEELS.—HIRAM V. MORGAN AND OTHERS.

August 12, 1835.

SIR,—My communication to you of last May, having called forth a variety of remarks and animadversions, it is necessary that I should offer a few observations in explanation.

I therein stated, that my object was to offer a few observations on late inventions, and most particularly on that of Morgan, meaning to supply a few experimental facts and hints from practical experience. Now, in doing so, I do not see how I can justifiably be accused of uncandid and illiberal criticism; nor will all the hard names with which I have been bespotted prevent me from continuing my course. Those facts are open to contradiction. But I shall shew, that, with the exception of a solitary case, they have not been controverted, but merely matter of opinion offered against them.

It is infinitely amusing to see "Philo," in your June number, first complain that he cannot understand my paper, (an admission perfectly unnecessary, considering his lugubrious remarks,) and



then observe that he wishes to draw the attention of practical men to a point which is to them as old as the hills, and the almost impossibility of its execution put beyond doubt. I should also wish to ask, how long it has been the custom of a writer on any subject to be answerable for the comprehension of his reader.

I am, and always shall be, ready to acknowledge any error, or any injustice arising therefrom; and I accordingly apologize to you, Sir, and your readers, for having given a description of Symington's wheel, from hearsay only. I have since inspected that which was applied to the *Alban*, and can therefore speak confidently. With this exception, you will find that all those "gross inaccuracies" of which I have been accused, are mere chimeras, and arise solely from the anxiety of my opponents to make out their case.

The change in the position of the paddle is not produced instantaneously, as before described, neither is it so gradual as in that of Carter's. A large cast-iron circular guide is fixed on the ship's side, (just where the eccentric is placed in Buchanan's patent,) having a groove deviating from a right line, into which a bent stem or lever works, with a small roller, covered with leather, for the purpose of giving the "required angle" to the paddles at the "required" time.

There are two sets of paddles in each wheel, having their spindles vertical, and the motion is communicated from the inner to the outer by means of *toothed segments* fixed on the upper end of said vertical spindles. And, by the revolution of the shaft, the changes are alternately produced, as the small lever revolves in the irregular curve of the fixed frame.

Now, I believe the above will be found a correct description of Symington's wheel,\* and I have no reason to quarrel with Lieut. Wall so long as he put forth *his opinion* only, and was pleased to dilate on the beautiful simplicity of this invention, but when he accuses me of unwarrantable criticism, merely because I differ in opinion with him as to the excellence of the mechanism of the wheel, I think I have a right to shew whose opinion is backed by any thing like correctness. Lieut. Wall forms his opinion by what he has seen in models and drawings, and all persons acquainted with such things know the difference between applications of this sort on a small and on a large scale. I have seen neither, but the thing improved and applied to his Majesty's steamer *Alban*, where it proved a total failure. Now, why was this, if it possessed so much merit? I am of the contrary opinion, and do not think aught of its merits. The connection of the paddles by tooth segments

\* These toothed segments we believe are entirely done away, and we doubt yet whether Hiram has seen the finished wheel. Ed.



will never answer; and I have one experiment to back me. The blow of a sea, as described by the Lieutenant, in the latter part of his paper, would strip every tooth from them, and render the wheel useless. His observations respecting the complete wheel, and the wheel with two paddles only, I do not exactly understand. If that, a vessel with one wheel perfect, and the opposite one with only two paddles, is his meaning, I differ from him.

Suppose such a case, *and the shafts connected*, the vessel would almost instantly come round; but *dis-connect* the shafts, and let each wheel have its own engine, then the effect would not be so quickly perceptible, because the wheel with two paddles would make up in velocity what it lost in effect; but it could never equal the effect of the complete wheel. To render the experiment perfect, the Lieutenant should have given the number of strokes of each engine. He is pleased to be facetious, but, with all respect and deference, I beg to tell him, that if he possessed the extensive, sound, and varied knowledge as to the *correct principle* of the steam-engine, acquired by that "scientific person," he would be better able to enlighten his brother-officers on the subject of steam-navigation, of so much importance to the navy.

I again repeat, that the shake and tremor was great in the Alban; and in doing so, I merely state what can be corroborated by fifty persons; and I think some little inquiry should have been made, before a contradiction; there was no great difficulty in ascertaining which wheel was the offender, as before, *two* wheels on the old plan made no such noise and tremor, is it likely *one* would?

I now come to Commander Morgan, whose observations are of some length.

And I cannot but suggest to him the propriety of not only thinking, but reading, a little more attentively, before he accuses me of inaccuracy; to say the least, he has been hasty in his judgment.

I am accused of stating those facts only that made against Morgan's wheels; of adopting Mr. Barlow's errors, and proving things to my own satisfaction only. I stated all the facts within my knowledge, and knew of none in favour of them; it is my conviction that they are failures, and, by a statement of facts, endeavoured to shew they were so. It was the commander's place to contradict me: he has done so. I shall endeavour to contravert him, and your readers can judge between us.

I have adopted no error of Mr. Barlow's, respecting the vertical paddles. I made a diagram myself, and therefore knew their exact motion in the water; and, in order to get over that point, the Commander has denied the accuracy of it. Now, this only proves that neither he nor his brother knows the performance of their own wheels, and I beg most distinctly to contradict him; besides the



diameter and turns, was given also the velocity of the boat, and a small quantity of calculation would have sufficed to set the matter right. I have spoken of the common wheel; that of Morgan's is a diagram of the *Confiance's*, in its improved state, that wheel which cost, when perfect, will it be believed, £3,891!

I do not think that Mr. Barlow's diagram was made from actual experiment, at least no properly proportioned wheel would produce such a result; but I shall give another sample of them in this paper.

I think I proved as plainly as it could be, that the new wheels cost more than twice the old, that the wear and tear was much greater, and that they did not last half so long. How has this been met?—by a sneer, that I have proved to my “own satisfaction.” This is puerile: why was not an inaccuracy proved? The Commander *could* have done so, for their cost should have been £1,600, instead of £1,500. In stating that if one radius rod gave way, the wheel was useless, it should be recollected I was drawing a comparison between the two systems.

In the old wheel, one, two, or three of the arms may be removed; it is effective: not so Morgan's. I did not infer that it was useless for *ever*, but until it could be repaired; and the Commander must know the difficulty of this operation in a heavy sea; and after the wheel has been exposed for some time to the action of the salt-water, the forelocks and bolts become so fixed by oxidation, that their removal even in the shop is a matter of some difficulty, at any rate, it must be an operation of one hour, under the most favourable case; and suppose the ship to be “clawing” (I borrow the term) off a lee shore!

In opposition to the Commander's statement, that no case has occurred in five and a half years' practice, I know not how to reconcile a communication of the first Commander of the *Flamer*, but should recommend an application to the log-book. He stated to me, that “*some part* of the wheel gave way, and became *locked*; that, after some delay, they put the matter right and proceeded, but it again became fixed, and the united power of the crew could not move it; they were obliged to run back one hundred and twenty miles, of course under sail.” Another case occurred in a wheel of Monsieur Cavé, fitted on board the *Courier*, running between Dover and Calais: a radius rod gave way, the wheel was useless, and the vessel at the mercy of the waves, until H.M. packet *Firefly* went out and towed her into Calais.

With regard to the wear of the brasses, as my observations applied to the second wheel of the *Confiance*, it was correct, as they *did* soon wear out. I will allow the justice of the observation, it is unfair to judge of those made in 1830; they are now so altered, that even their own projector would not recognise his handiwork; but I am ready to join issue even with the most







even in some matter of detail, and thought he was the original inventor, until lately disabused on that point. I have been thus particular, because the Commander has taken great pains to extricate Buchannan's wheel from my protection; the reason why I cannot tell, without his brother considers it the father of Gallo-way's *invention*. In that case, the present generation, in my opinion, are much degenerated.

I am requested to catechize the owners of the river barges and wherries, to prove that backwater is a great loss in the common wheel! Ask a thief at Newgate to give his judges a good character, or a town-clerk at the bar of the House of Lords to speak the truth; and, supposing they did state fact, what do they know about it? that there is a great current of water following the track of a vessel, and *in a line with her course*, occasioned by the paddles, whether new or old, moving in the water, and propelling the vessel; that all they fear is the *wave from the bow*, caused by a rapid division of the fluid, and that they feel this when far away from the action of the paddles; but when they get astern in the backwater of the paddles, all danger ceases. This can be proved by any one in a boat in a short time; let them go close to a steamer, pass the wave from the bow, and there will be no oscillation whatever. But to apply to such persons for a scientific answer to the question, how absurd!

Another proof: observe a sharp fine vessel, in comparison with a bluff bow, what I call the bow wave, "beaches" much sooner in the latter than the former, turning it off in a corresponding angle. But if it is meant to be inferred from all this, that Morgan's wheel is free from this objection, *when propelling a vessel at the same rate*, I deny it, and shall prove by a diagram that the new wheel *moves more in the water than the common*. With regard to the Soho and the Flamer, those who know the two vessels must be fully aware of the alleged superiority of the latter in every particular. The Commander seems not to be one of those persons, and has taken the trouble to forward you a second letter, in which he has put forth another "inaccuracy," and exposed his want of knowledge on the subject. But, sir, you\* appear to have led him into this scrape; he refers to your journal, page 605, and gives the register tonnage of the "Soho at 353 tons, whereas the Flamer is 494 tons." Now, I think every Commander of his Majesty's navy ought to know that H.M. vessels are never registered as others, and it is evident he has taken the *actual* tonnage of the Flamer to compare with the *register* tonnage of the Soho. But I shall leave him and you to settle that point, and proceed. To make the thing more clear, I subjoin some particulars of the vessels.

\* We disclaim this; and it appears that the *register* tonnage of the Soho, quoted from this work, corresponds with a parliamentary document.—Ed.



*Dimensions of Both.*

Name.	Length between Per- pendicular.	Beam.	Depth in Hold.	Builder's Tonnage.	Register Tonnage.	Draft at Experiment.
Soho . .	151.3	27.0	17.5	510 $\frac{1}{2}$	353 $\frac{5}{8}$	10.1
Flamer . .	155.0	26.0	15.3	492 $\frac{1}{2}$	333	11.0

Or an excess on the part of Soho :

Builder's Tonnage..... 17 $\frac{3}{4}$  | Register ditto ..... 20 $\frac{1}{4}$

The difference arising from the length of Flamer's engine-room being a trifle the greatest. Again—

Displacement of Soho at 10 ft. Draft, as at Experiments, 641 tons.

Displacement of Flamer at 11 ft. Draft, as at Experiments, 467 tons.

Excess of Soho, Displacement at 11 inches less draft,.... 174 tons.

Angle of Soho's Water-Line ..... 33°

Ditto of Flamer's, same draft ..... 28°

And yet, with all the above advantages on the part of Flamer, I have proved that her mechanical performance is much worse than her competitor. The Commander's observations about the consumption of coals, and the insufficiency of the Flamer's boiler, prove him to be a very, very poor engineer; and the thing seems not to be understood by many of your contributors, one assuming it to depend on the number of strokes, and another that it is the same at whatever speed is attained by the piston. Neither is right. With the *same* engines and boilers, the consumption of coal is, as the work done, or power exerted; or, in other words, it will always be as the actual mean pressure on the piston, *multiplied* by the number of strokes per minute; that is, assuming no waste to take place by blowing off at the safety-valve.

Now, the Commander shews his unacquaintance with the subject, when he said "Hiram must allow the Soho worked to her power, and that the Flamer did not." The reverse is the fact.

The Soho was light, and her wheels had not sufficient hold in the water, consequently insufficient resistance was obtained for the power of the engine, and the throttle-valves were obliged to be shut, to restrain it within bounds. Hence the pressure on the piston was reduced below 10 lbs. per square inch, and of course power and consumption of coals in proportion. The Flamer was different, the engines could only drive Morgan's wheel 24 strokes per minute with all their power, and with a pressure on the piston of 13.67 lbs. minus friction, at which they should be most effective; whereas those of the Soho were going much too fast to do good.

In making this comparison, I do not take the first experiment of Flamer on the 6th of October, 1832, when she was light, drawing 9 ft. 7 in. mean only, and speed attained, 10.85 miles, but that of



21st of October, on her return from Sheerness, drawing 11·0 mean, and speed obtained was 9·53 miles per hour.

Now, I have been favoured with the result of an experiment made on that occasion, of the consumption of coals, by a worthy officer of that yard; I will give it.

Several hours' trial gave an average of 13 bushels per hour = 1040 lbs. The pressure on the piston was 13·67 lbs., which, at 24 strokes per minute, is equal to 213 horses, and  $\frac{1040}{213} = 4·89$  lbs. of coal *per actual horse per hour*. I confidently appeal to practical men, and ask whether inefficient boilers would ever produce such a result. Again, take the Soho at 10 lbs. pressure on the piston, and 28 strokes = a power of 192 horses, coals consumed 8 cwt. (as given in my last) = 872 lbs.; then  $\frac{872}{192} = 4·6$  lbs. *per actual horse per hour*. Now, the pressure was under 10 lbs., which will give the same average. The above I consider a triumphant refutation of the Commander's libel on the boilers of the Flamer; and reference can also be had to her present Commander, to decide the point. I am the more astonished at it, because, if true, it could not assist his case one jot, as the engines on the first experiment went 27, and on the second, at her greatest draft, 24 strokes; therefore the full calculated speed, on an average, viz. 25.

Another point on which I have to contradict the Commander: his brother was applied to, for the purpose of estimating for a pair of wheels to be applied to the Soho; but were they rejected from the causes stated? The removal of the fore-beam would not injure one berth-place, as may be seen on inspection, and the after-beam passes through the engine-room, and could be moved at pleasure, especially during her last repair this summer, when her decks were all up. No, no! perhaps the cause might have been the enormous price, I have reason to know, £1,600, or thereabouts; when those on the common plan, and now fitted, did not, I assert, when complete, stand them in £450, and will last six or seven years, whereas in half that time, do not Morgan's require an expensive repair?

If I quoted from Mr. Barlow only what answered my purpose, and stated that only which made against Morgan's wheels, he must agree I did not give *all* his observations to that effect. I merely stated the result; and any of your readers, on reference to table 3, page 214, of that paper, will see that the effective power of the paddles, that of the engine being 1, is,

Morgan's, 666.                      Common, 553.

and consequently loss power, that of the engine being 1:

Morgan's, 333.                      Common, 447.

And that at a very deep immersion, or where the new wheels are allowed to be most effective, if we take a mean of the experiments the advantage will be shewn to be but "small indeed."

Again, page 215, "we are thus in the *common wheels* able to



account for the power of the engine, which not only proves satisfactorily the accuracy of the principles adopted in the preceding calculations, *but that the supposed loss of power from back-water is very trifling.*" I quote thus far, to shew I have not been so uncandid as the Commander would have me appear, nay, not so much so as himself, when he accuses me of omitting the trial of the Medea at her load-draft. It should be observed, all my calculations were founded on trials at the mile-ground, and I stated none were made at the Medea's load-draft. Now, if the Commander had been candid enough to give the whole of the note to which he directs my attention, at page 204, he would have seen, that "the exact speed was not ascertained, for the want of a measured mile on the banks of the river," &c. But I do not want the assistance of any one; I am content to stand or fall by my own data; and perhaps a few observations as to the compilation of that data would not in this part of my reply be misplaced.

I avoid all question about this or that vessel being *actually* the faster, and at once enter into the *cause* of her being so, or why she is not so, and, by the involution of the velocity, area of immersed section, and the power, obtain a comparative performance, or *mechanical effort*, at once decisive, and applicable in all cases, whether the vessel is light or loaded, and it is a close approximation to the resistance of the body, and in some degree combining tonnage or displacement, but which, by the way, has little to do with it; for it is very easy to build two vessels, one two-thirds the displacement of the other, with the same power, and yet the larger tonnage shall be much the fastest; in fact, there are so many practical illustrations now afloat, that it is unnecessary to particularize any.

I shall refer then to the "questions," merely to contradict the assertion as to the Flamer's beating the Harlequin. I was on board the latter on the 6th of October, 1832, and the Flamer never went faster than on that day, for she was then light; but the latter passed her at Gray's; and the Commander's brother will well recollect her band playing the tune of "The girl I left behind me." The trials of the Echo, Lightning, and Confiance are very good, so far as the *relative speed of each vessel* is required, but nothing more is gained by it. Let the Commander state the draft of water of the Lightning, after the application of the new wheels, and on what data she is assumed to be faster, and I will be bound to shew nothing is gained by it, as I shall have the pleasure to do in the case of the Pluto. The regular working of the engines is a matter of small importance, compared with a diminution of speed. Good engine-man as Mr. Rastrick is, I am inclined to doubt his veracity about the wheels' spinning in the air, and engines tearing themselves to pieces. How many hundreds of vessels, sea-going, and fitted with the much-abused common wheel, and not having a



Mr. Rastrick on board, have not yet experienced so great a calamity. Hiram was fully aware of the reduction in the power of the Columbia, and the improvement thereby, but ascribes it to a different cause than the effect of Morgan's wheels; she was *overpowered* with the 60's, the extra weight being more than an equivalent for the extra power, as was the case in the Firebrand before her reduction from 70's to 60's; "but the immersion was the same:" no doubt the extra forty tons of coal produced it. With the 50's she stows 110 tons of coal in the boxes, but with the 60's not half that quantity. I ask, was the comparative trial made with 110 tons on board, or when half was burnt, and the draft of water materially reduced? I am prepared to prove her mechanical performance very, very bad. Again, she was started about 1825, and it is unfair to compare the state of knowledge then with now. We have materially improved in the application of the common wheel since that time. I have a note of an experiment made with her on the 2d of May, 1833: 2.50 horse engines, Morgan's wheels, draft, 11.3 forward, 12.6 aft = 11.10½ mean, with 110 tons of coal in the boxes: velocity obtained was,

	Miles.	Miles.	
Against tide, with wind	9.50	} = 7.5	
With tide, against wind	5.50		

Will the Commander broadly assert she was slower with the 60's? The experiments of Captain Austen are partial and inconclusive; partial, because he should have tried a vessel with a common wheel, disconnected, and he would have found very little impediment to the vessel's way; inconclusive, because only one experiment was made, and the result might have been obtained by other causes, such as winds stronger, or the current of the sea, &c. I say this, for I know from experimental fact, that the common wheel offers a very trifling resistance when disconnected; and is it reasonable to suppose that Morgan's wheel will revolve with *less friction* from the number of joints and bearings?

It is very natural that the Commander should endeavour to prove the inutility and incorrectness of the mile trials, and throw as much ridicule on them as possible; for there his brother's wheels have been beaten, as they always will be, where a decided and a mechanical test can be applied.

The observations of Messrs. Symonds and Otway, that the vessel never goes so fast as when the superintendant is on board, is a compliment which I hope they will know how to appreciate; but I do not see that it is well founded; on the contrary, it is the general opinion that all vessels are generally tried under a disadvantage when started, the newness of the packing, the friction of various parts of the engine-bearings, and frequently a want of steam, arising from the freshness of the boiler-joints, and the dampness of the vessel, &c., producing a great degree of condensa-



tion; as in the Flamer's first experiment, 6th October, which, in her case, was increased by a long steam pipe of thirty-two feet being exposed to the atmosphere, and not lapped, on a wet day. The advantage is shewn in the Monarch, as stated in my last: an experiment at her starting gave a velocity of 10·25 miles, whereas at the end of the season she acquired 11·0 miles, arising from causes before explained.

Now, from the Commander's own quotation, I am enabled to shew him why the mile trials did not agree with the results obtained by a trial of the various vessels at their greatest immersion; simply because the *light drafts at the mile experiments were not in a direct proportion to their load draft in the trial alluded to*; for example, the Flamer and Firebrand, both built from the same drawing, and alike:—

Name.	Draft at Mile-Ground Experiment.	Velocity obtained at Experiment.	Draft when ready for Sea.	Velocity obtained at Sea.
Flamer - -	9 7	10·85	11·0	9·53
Firebrand -	10 6	10·355	11·0	—

It will be seen that Flamer had *eleven* inches less immersion at her mile-ground experiment than the Firebrand, and yet her load-draft would be nearly alike, viz. 11·0: this alone is enough to account for this difference of velocity. All the others quoted are in the same predicament. The Phoenix was flying light, or she could never have attained that velocity. Now, I avoid all this mystification, and, by taking the draft or area of the immersed section, get over the difficulty in which the Commander seems "immersed." But I am willing to decide this point in another way, by a reference to sea-going vessels, and *the actual velocity* obtained by them on an average taken for a whole year.

The Monarch, employed in the Scotch trade, has, on an average, from March to December, made the passage from Blackwall to Leith in 44 hours 46 minutes 4 seconds: the distance is 474 miles = 10·6 miles per hour.

The Dundee, an average of twenty passengers up and down, in 42 hours 20 minutes: the distance 480 miles, (from Hogg's new map,) or an average of 11·3 miles per hour, in all weathers.

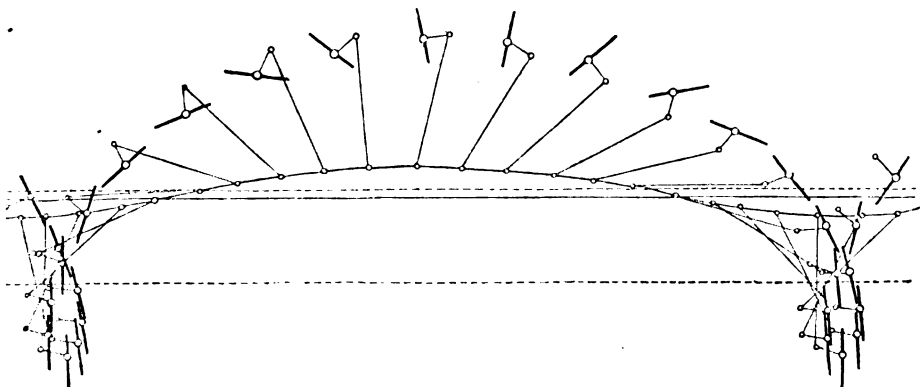
Now, let it be noted whether any of his Majesty's steamers can do any thing like this.

Another case in point. The Queen of the Netherlands, belonging to the General Steam Company, was fitted with a pair, cost £500, for 2·20<sup>s</sup>, and, on an average of the passages, *no improvement in speed has been found*. But the vessel *rolls much* more, in consequence of the paddles being *nearly vertical*, and having no ten-



dency to keep her steady. I make both those assertions on the best authority.

But, Sir, to conclude, it has seldom occurred that an opportunity has arisen to make a conclusive experiment on the same vessel. His Majesty's steamer *Pluto* is an example, and I shall put before your readers the result, that they may judge for themselves. I send you two diagrams of the old and new wheels, and I challenge contradiction as to their correctness, as also those in a former communication ; I hope you will find room for them.\*



They are both from actual experiment, and plainly shew that Morgan's moves as much in a horizontal direction in the water as the old one. But I will give the experiment :—

*Pluto.*

Name.	Power in Horses.	Strokes at Experiment.	Mean Draft.	Area of Immersed Section.	Velocity at Mile-Ground	Mechanical Effect or Performance.
Old Wheel -	100	27	6.0	129.	10.05	1290
Morgan's -	100	22	7.6½	166.66	9.035	1269

The first experiment was tried with the *Pluto* on the 6th of Aug. 1831 ; the second on the 1st of May, 1835 ; with Morgan's most improved wheel : and yet the result is inferior, or as 1269 to 1290.

I do not know what more is wanting, to shew that in still water no advantage is obtained by the application of Morgan's wheels ; I have shewn the Commander's error in judging the mile trials, and

\* We have only given Morgan's ; but if Hiram still wishes it, will have the other diagram engraved.—ED.



can only appeal to those who have been present as to the accuracy of the observations made, in all respects. I have shewn it does not matter whether the vessel is light or loaded, to insure accuracy; and can he point any other plan so feasilably correct? is there not a fault in the construction of his brother's wheel, which will prevent its being brought into river use, namely, the *division of the shaft*? he cannot extend the length of the paddle-board without weakening it much, to counteract which he must make it heavy by diagonal braces, &c. Now, this defect does not exist in Buchanan's; you may have your paddles any length, that great desideratum, and in fact combine all the essential properties of the common wheels, with the exception of its cost and repair.

I am, Sir, your obedient servant,  
HIRAN.

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#### THE LATITUDE BY STARS.

As the method of finding the latitude by meridian altitudes of stars is often employed at sea, we have arranged some of the most conspicuous in the accompanying table, with the times of their passing the meridian on every tenth day, for the remainder of the present year.

The table also shews the stars which are near the meridian at any proposed time, and also the order in which they pass it, and therefore saves the observer the trouble of finding by computation, whether any stars fit for the purpose of latitude are near the meridian.

The time used is Mean Time at Greenwich, or that shewn by a chronometer, and it is noted to the nearest *tenth* of a minute, or six seconds, which is quite near enough for the purposes intended. But, as the time at sea is usually regulated by the sun's passing the meridian, at which time the glasses are turned, it will be often convenient, in having occasion to refer to the table for stars, to turn the times there given into apparent time, or that shewn by the sun; for this purpose, a number (the equation of time) is placed at the foot of the column.

As the time at sea, unless reference be made to a good watch or chronometer, is not regulated to two or three minutes, and as the use of the table is rather to inform the observer when he is to look out for a star, than to indicate the precise instant of transit, the time of transit for any intermediate day may be at once taken out by eye near enough; also, as  $180^\circ$  of longitude will produce a change of only two minutes in the time of transit, it is unnecessary to correct for longitude. We shall give cases of the application, which shew the correct process where it is required.

To find the transit of a star on a day between the dates given: multiply 39.4 (the difference of transit in ten days) by the number



of days elapsed since the nearest date past, divide by ten, and subtract the product from the last inserted transit.

Example: Find the time of transit of Procyon on Nov. 17th; the 17th being seven days past the 10th, multiplying 39.4 by 7, as directed, gives 27.58, which deducted from 16 h. 12.4 m. (the transit on the 10th) gives 15 h. 44.7 m. on the 17th, which is the same thing as 3 h. 44.7 m. A.M. on the 18th.

To turn this meridian passage 15 h. 44.7 m. into apparent time: the number at the foot of the column being 16 on the 10th, and 14.3 on the 20th, the difference is 1.9, which multiplied by 7, the number of days passed since the 10th, and divided by 10, gives 1.3, which subtracted from 16 (because it is decreasing) gives 14.7 for the equation required; and this is to be *added*, as directed under the column, to 15 h. 44.7 m., which becomes 15 h. 59.4 m., the passage in apparent time.

To correct the time of transit for longitude: In west longitude deduct 10 s. per hour, or  $15^\circ$  of long.; in east long. add the same: for example, suppose the time of a transit on a given day to be found 9 h. 40 m., to find the time of transit over the meridian in  $72^\circ$  west long.;  $72^\circ$  is five hours nearly, hence five times 10 s., or 50 s., which is 0.8 min., being deducted from 9 h. 40 m. leaves 9 h. 39.1 m. the time of transit in  $72^\circ$  west.

The times in the table are those of upper transits, that is, of the transits above the pole. But since in any latitude all stars whose polar distances are less than the latitude do not set, such stars may be observed passing the meridian below the pole. The lower transit takes place twelve hours of sidereal time before and after the upper transit, or 11 h. 58 m. nearly of mean time. Thus, for instance, the pole star passed the meridian on Oct. 21st, at 11 h. 2.2 m. P.M.; hence the lower transit took place 11 h. 4 m. in the forenoon of that day, and at 11 o'clock on the forenoon of the next day, within a few seconds.

The transits omitted are those which take place too near the sun to be visible.

The table also serves for finding the horary angle, or meridian distance of a star, at any time; thus, take the difference between the given mean time and the meridian passage of the star, and increase it by adding ten seconds for every hour: the result is the horary angle required. If the time at place exceed the time of passage, the horary angle is to the west; if otherwise, to the east of the meridian. If the result exceed twelve hours, subtract twelve hours, and reckon east for west, and west for east.

Example: Find the horary angle of  $\alpha$  Andromeda at 3h. 30m. P.M. on Oct. 31st. The time of passage being 9 h. 22.1 m., subtract 3 h. 30 m. from it; the remainder 5 h. 52.1 m., increased by 54 s. or 0.9 m., gives 5 h. 53 m. the horary angle, east. At 11 P.M. it is 1 h. 38.1 m. west.



As the sea horizon is generally not well defined at night, it is advisable for the same observer to take two stars, the one on the north and the other on the south side of the zenith, as soon after each other as they can be obtained: the mean of the two latitudes thus deduced may be presumed to be nearer the truth than either taken separately, for the eye will probably be in error the same way at each observation. The chief obstacle to night observing at sea is the inconvenience of reading off the instrument; when this can be done with tolerable quickness, it is always advisable to take two or three altitudes during the time that the star remains about the meridian altitude, in preference to straining the eye to watch its rising or falling.

In the morning and evening twilights, especially the former, because the eye has been already accustomed to the want of light, altitudes of bright stars can readily be taken.

In all cases when the horizon is clear, it will be quite as well to observe the stars at any time within half an hour of the meridian, in high latitudes, on either side, and to reduce the altitude to the meridian alt. which is easily done thus:—

To the constant log. 3·837 add twice the log. sine of half the mer. distance, log. cos. declin., and log. cos. lat. by acct., and log. sec. alt.: the sum is the log. of a number of minutes to be added to the (corrected) observed alt.

Example: Nov. 10th, lat. by acc.  $40^{\circ}$  N., long.  $36^{\circ}$  W., at 15 h. 8 m. obtained alt. of Sirius  $32^{\circ} 57'$ , the pass. mer. in the table being 15 h. 19·7 m., deducting 24 s. or ·4 of min. for  $2\frac{1}{4}$  hours W. long., gives the time of pass. 15 h. 19·3 m.: then the difference of 15 h. 19·3 m. and 15 h. 8 m. is 11·3 m., the horary angle or meridian distance, (or  $2^{\circ} 49'$  in space,) and, adding the logs. as below, we find 3·6' to be added to the observed altitude, which gives the mer. alt.  $33^{\circ} 0' 6''$  S.

Const. log.	. . . . .	3·837
2 log. sin. $1^{\circ} 24'$	. . . . .	6·780
Log. cos. $16^{\circ} 29'$	. . . . .	9·982
Log. cos. $40^{\circ}$	. . . . .	9·884
Log. sec. $32^{\circ} 57'$	. . . . .	0·076

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3·6'      log.    0·559

When a star is observed below the pole, the correction must be subtracted from the observed altitude.

To save reference to a table for the declination, this is inserted in the last column, to the nearest minute.

A similar table for the whole of the ensuing year will appear in our January number.



STAR.	Magnitude	Oct. 31.	Nov. 10	Nov. 20	Nov. 30	Dec. 10.	Dec. 20.	Dec. 30.	Declination
		A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	A. m.	° ' "
$\gamma$ Pegasi	2.3	9 26.9	8 47.6	8 8.3	7 28.9	6 40.6	6 10.3	5 31	14 16 N.
$\beta$ Ceti	2.3	9 57.4	9 18.1	8 38.8	7 59.4	7 20.1	6 40.8	6 1.5	18 53 S.
$\alpha$ Ursæ Minor.	2.3	10 22.9	9 53.5	9 4.2	8 24.8	7 45.8	7 7.5	6 27	88 26 N.
$\alpha$ (Pole Star)	1.2	10 53.6	10 14.1	9 34.8	8 55.5	8 16.2	7 38.2	6 57	6.58 4 S.
$\alpha$ Eridani	3	11 19.7	10 40.4	10 1.1	9 21.7	8 42.5	8 3.2	7 23.9	22 41 N.
$\alpha$ Arietis	2.2	12 15.5	11 36.1	10 56.8	10 17.4	9 38.1	9 0.4	8 19.5	3 26 N.
$\alpha$ Ceti	2.3	12 34.3	11 54.9	11 15.7	10 36.3	9 57	9 19.3	8 38.4	49 16 N.
$\alpha$ Persei	2.3	13 11.9	12 32.6	11 53.3	11 13.9	10 34.6	9 55.3	9 16	13 59 S.
$\gamma$ Eridani	1	13 48	13 8.7	12 31.4	11 51.9	11 12.5	10 33.1	9 13.7	16 10 N.
$\alpha$ Tauri	1	14 26.3	13 46.6	13 7.2	12 7.9	11 48.6	11 9.4	10 30.7	45 49 N.
$\alpha$ Aurigæ	1	14 26.3	13 46.6	13 7.2	12 7.9	11 48.6	11 9.4	10 30.7	45 49 N.
$\alpha$ (Capella)	1	14 26.3	13 46.6	13 7.2	12 7.9	11 48.6	11 9.4	10 30.7	45 49 N.
$\beta$ Orion	2	14 27.9	13 48.7	13 9.3	12 30	11 50.7	11 11.4	10 32.1	8 24 S.
$\beta$ (Rigel)	2	14 27.9	13 48.7	13 9.3	12 30	11 50.7	11 11.4	10 32.1	8 24 S.
$\beta$ Tauri	2	14 37.3	13 57.9	13 18.6	12 39.2	11 59.9	11 20.8	10 41.4	28 28 N.
$\beta$ Orion	2	14 45.4	14 5.5	13 26.3	12 46.8	12 7.6	11 28.4	10 49.8	0 25 S.
$\epsilon$ Orion	2.3	14 49.2	13 59.8	13 30.5	12 51.1	12 11.9	11 32.6	10 53.2	1 19 S.
$\alpha$ Colomb	2	14 55	14 15.7	13 36.1	12 57	12 17.7	11 38.5	10 59.1	34 10 S.
$\alpha$ Orion	1	15 7.6	14 28.2	13 49	10 9.7	12 30.2	11 51.1	11 11.7	7 22 N.
$\alpha$ (Betelgeuse)	1	15 41.6	15 2.1	14 12.9	13 43.5	13 4.2	12 24.7	11 45.6	52 36 S.
$\alpha$ Argus	1	15 59	15 19.7	14 40.4	14 1	13 21.7	12 42	12 3.1	16 29 S.
$\alpha$ Canis Major	2.3	16 13.2	15 33.9	14 54.6	14 15.2	13 35.9	12 56.7	12 17.3	28 45 S.
$\alpha$ (Sirius)	2.3	16 13.2	15 33.9	14 54.6	14 15.2	13 35.9	12 56.7	12 17.3	28 45 S.
$\alpha$ Canis Major	2	16 45	16 5.7	15 26.4	14 47	14 7.7	13 28.4	12 49.1	32 14 N.
$\alpha$ (Castor)	1.2	16 51.8	16 12.4	15 33.1	14 53.7	14 14.4	13 35.2	12 55.8	5 39 N.
$\alpha$ Canis Minor	2	16 56.2	16 16.9	15 37.6	14 58.2	14 18.9	13 39.7	13 0.3	28 25 N.
$\beta$ Gemin.	2	16 56.2	16 16.9	15 37.6	14 58.2	14 18.9	13 39.7	13 0.3	28 25 N.
$\beta$ (Pollux)	2	16 56.2	16 16.9	15 37.6	14 58.2	14 18.9	13 39.7	13 0.3	28 25 N.
$\alpha$ Argus	2	18 40.3	18 0.8	17 21.6	16 42.2	16 2.9	15 23.7	14 44.4	7 57 S.
$\alpha$ Hydra	1	18 40.3	18 0.8	17 21.6	16 42.2	16 2.9	15 23.7	14 44.4	7 57 S.
$\alpha$ Leo	1	18 40.3	18 0.8	17 21.6	16 42.2	16 2.9	15 23.7	14 44.4	7 57 S.
$\alpha$ (Regulus)	2	19 59.1	19 34.7	18 55.3	18 15.9	17 36.6	16 57.3	16 18	62 38 N.
$\gamma$ Argus	1.2	20 13.9	19 34.7	18 55.3	18 15.9	17 36.6	16 57.3	16 18	62 38 N.
$\alpha$ Ursæ Major.	2.3	21 5.4	20 26	19 46.8	19 7.4	18 28.1	17 48.8	17 9.5	54 36 N.
$\alpha$ (Deneb)	1	21 37.5	20 58.4	20 19.1	19 39.7	19 0.4	18 21.2	17 41.8	62 11 S.
$\alpha$ Crucis	2.3	21 37.5	20 58.4	20 19.1	19 39.7	19 0.4	18 21.2	17 41.8	62 11 S.
$\beta$ Corvi	2.3	21 37.5	20 58.4	20 19.1	19 39.7	19 0.4	18 21.2	17 41.8	62 11 S.
$\alpha$ Canis Venata	2.3	22 8.5	21 27.1	20 47.8	20 8.5	19 29.1	18 50.8	18 12.5	39 12 N.
$\alpha$ Virg.	1	22 8.5	21 27.1	20 47.8	20 8.5	19 29.1	18 50.8	18 12.5	39 12 N.
$\alpha$ (Spica)	2.3	23 0.9	22 21.6	21 42.4	21 3	20 23.7	19 44.4	19 5.1	50 8 N.
$\gamma$ Ursæ Major.	1	23 12.3	22 32.9	21 53.6	21 14.2	20 35	19 55.8	19 6.3	59 34 S.
$\beta$ Centaur	1	23 40.4	23 9	22 29.7	21 50.3	21 11	20 31.9	19 24.6	9 S.
$\alpha$ Triangle	2	1 54.7	1 15.1	0 36.1	23 52.8	23 13.5	22 34.2	21 55	68 43 S.
$\beta$ Draconis	2	2 50	2 10.6	1 31.3	0 52	0 12.7	23 29.7	22 50.2	52 26 N.
$\alpha$ Lyre	1	3 54.5	3 14.1	2 34.8	2 15.4	1 36.1	1 16.8	1 0.1	38 38 N.
$\alpha$ Aquilæ	1	5 57	5 26.3	4 46.8	4 27.4	3 48.1	3 28.8	3 9.5	26 N.
$\alpha$ (Altair)	2	5 57	5 26.3	4 46.8	4 27.4	3 48.1	3 28.8	3 9.5	26 N.
$\alpha$ Pavonis	1	5 58.6	5 19.2	4 40.7	4 21.3	3 42.1	3 22.8	3 4.1	42 N.
$\alpha$ Cygni	3	6 37.2	5 57.9	5 18.6	4 39.2	4 0	3 20.6	2 41.3	53 N.
$\alpha$ Cephei	2.3	6 37.2	5 57.9	5 18.6	4 39.2	4 0	3 20.6	2 41.3	53 N.
$\alpha$ Pegasi	2	7 20.4	6 41	6 1.7	5 22.3	4 43	4 3.8	3 24.1	9 7 N.
$\alpha$ Grus	1	8 11	7 31.6	6 52.3	6 12	5 33.6	4 54.4	4 15.1	29 S.
$\alpha$ (Fomalhaut)	2	8 19.9	7 39.6	6 59.3	6 20.8	5 41.6	5 2.3	4 23.0	14 19 N.
$\alpha$ Pegasi	2	8 19.9	7 39.6	6 59.3	6 20.8	5 41.6	5 2.3	4 23.0	14 19 N.
$\alpha$ (Marcab)	2	8 19.9	7 39.6	6 59.3	6 20.8	5 41.6	5 2.3	4 23.0	14 19 N.
$\alpha$ Andromeda	2	9 22.1	8 42.8	8 3.5	7 24.1	6 44.8	6 6.6	5 37.1	23 11 N.
$\alpha$ (Alpheratz)	2	9 22.1	8 42.8	8 3.5	7 24.1	6 44.8	6 6.6	5 37.1	23 11 N.
Equation of Time		add 16.2	add 16	add 14.3	add 11.3	add 7.2	add 2.3	subt. 2.6	



## CURRENTS OF THE OCEAN.

(Concluded from page 521.)

THE north polar basin is included in a circular space, of which the *pole* may be considered the centre, and the  $71^{\circ}$  of latitude the circumference. From the north-west point of Lapland, and eastward along the northern shores of Europe and Asia, the coast embraces the polar-sea in an irregular curve, for about  $180^{\circ}$  of longitude to Behring's Straits. The northern parts of America, on the shores of the polar-sea, are very imperfectly known, but our geographical knowledge enables us to state, that any passage of communication between the Atlantic and the polar-sea, in this quarter, must be between Cape Farewell, in Greenland, and Labrador; consequently there can only be three passages into the polar basin: one from the Pacific, through Behring's Straits; another between Norway and Greenland, from the Atlantic; and a third between Greenland and America. Now, currents are known to run *in* from the Pacific through Behring's Straits, and also along the western shores of Europe, towards Spitzbergen. These streams, coming from the south, are generally of a higher temperature than the air, and the vapour raised from their surfaces produce fogs and *frost-rime*, very embarrassing to navigation. On the east coast of North America, and between Labrador and Greenland a strong current runs to the southward, and brings vast quantities of ice and icebergs from the frozen north. The temperature of this stream is exceedingly low. In addition to the influx of the two currents we have described, the polar-basin receives an enormous quantity of fresh water and ice from rivers. On the north coast of America there are the Mackenzie and Coppermine rivers, that drain a vast number of lakes and swamps. On the north of Europe and Asia there are 20 or 30 great rivers, discharging their waters into the polar basin, among which we may reckon the Dvina, Petchora, Oby, Yenisei, Olenek, Lena, Yana, Indigirka Kolima, &c. Now, in consequence of the great discharge of fresh water from these rivers, and the limited evaporation from the surface of a sea generally covered with ice, and where the temperature is always very low, there must be more snow and rain falling, and fresh water and ice received by rivers in a year, than the quantity carried off by evaporation.

The specific gravity of sea-water on different parts of the globe is modified by the quantity of fresh-water received by rain and rivers, and compared with the quantity carried off by evaporation at the given place. The nature and density of masses of water, transported by currents, also modify the density and temperature of contiguous seas. Thus the specific gravity of the waters of the South Atlantic is 1029; here, there is but little land and few rivers. The North Atlantic



has a specific gravity of 1028; and the north-polar sea, from lat.  $67^{\circ}$  to  $80^{\circ}$  north, only 1026. This difference in the relative densities of the water in the polar bason, the Atlantic, and Pacific keeps up a constant circulation, thereby preserving the mean densities of the fluids and the relative heights of their surfaces. We now proceed to consider the causes and consequences of these hyperborean currents, and in what manner the waste waters escape from the polar bason.

All the great rivers draining the northern parts of the earth discharge their waters into the polar sea, and in a direction towards the pole or axis on which the diurnal rotation of the earth is performed. Water issuing from these rivers partakes of two motions: 1st. its direct motion, as issuing from between the riverbanks; 2d. the easterly motion, in consequence of the earth's rotation on its axis. Let us take a single river for the purpose of explaining our meaning. The mouth of the Lena is in latitude  $70^{\circ}$  north; its mouth is carried round the earth's axis in an easterly direction once in a day, and at a rate of 307 miles an hour: now, a mass of water issuing from the mouth of the Lena partakes of this easterly motion, but when it reaches  $71^{\circ}$  of latitude, the *solid* parts of the earth *in this latitude* have a rotatory or easterly motion of 293 miles, that is to say, a diminution of 14 miles in the *hourly motion*, in a distance of 60 miles in a northern direction. Now, by the laws of motion, (as has been already explained,) a volume of water flowing towards either pole will acquire a direction more and more easterly; hence it must follow that a current must be in constant circulation round the polar bason from west to east.

The vast quantities of drift-wood found near high-water-mark, on the west side of projecting points, head-lands, within the polar sea, is a proof of this easterly set. We have also the testimony of Cook, Kotzebue, and Vassillief, to prove that on the N.W. coast of America currents were found setting to the eastward at the rate of three knots an hour. So strong was this current, that captain Vassillief was apprehensive that his fast-sailing sloop would be unable to return from beyond Icy Cape, in consequence of its strength. Greenland extends from Cape Fairwell in a northerly direction, and to an unknown distance into the polar sea. The strong easterly current we have been describing, is obstructed by the north Georgian Islands and shores of Greenland: finding an exit through some channel or channels, it winds its way southward, along the coast of Labrador, towards the banks of Newfoundland. Several bottles, containing written documents, have, from time to time, been committed to the waves in high northern latitudes, and have been drifted to the southward. A bottle from the Hecla, Capt. Parry, was put overboard in the entrance of Davis's Straits on the 16th June 1819, and was found on the island of Teneriffe, on the 29th July, 1821. Numerous instances of this kind might be given,



to prove the constant southerly current from Davis's Straits; but the Labrador current is as well known among seamen as that from the gulf of Florida.

There is a peculiarity in this hyperborean stream that should be noticed, and from which we might with confidence conclude that the current is supplied from the polar basin. The temperature at considerable depths is actually below the freezing point. In Baffin's Bay the temperature of the water

at the surface was found to be 35° Farenheit.

at 200 fathoms deep 29 "

at 400 " 28 "

at 660 " 25½ "

Now, it is pretty evident that no under-current exists here, setting in from warmer regions, but that the cold and freezing stream from the north, with its islands of ice, is in constant motion towards the south. The enormous icebergs, sailing southward along the bleak and inhospitable shores of Labrador, cool the sea to great depths; they also chill the air, and render that part of America barren and desolate, compared to places in corresponding latitudes on the western shores of Europe. One hundred icebergs have been seen in a single day, near the banks of Newfoundland on which they frequently ground. The great bank of Newfoundland may, in a geological point of view, be considered as a bar or shoal resulting from deposits from two great oceanic streams. The gulf-stream from the torrid zone sets towards the tail of the bank, and it is here where the iceberg, meeting with warm water, is dissolved, and its load of earth, gravel, and rocky fragments, borne from the shores of the frozen sea, are deposited. This is a process in constant operation, and, with the course of time, will produce great geological changes in this locality.

The raw and chilling quality of the atmosphere in the neighbourhood of floating ice is accompanied by mists and other meteoric phenomena, always dangerous, and frequently fatal to mariners. The temperature of the sea on the banks of Newfoundland has been found 15° lower than the deep sea to the eastward of the bank: no doubt, this low temperature results from cold radiated or conducted from *icebergs*, whose internal temperature may be as low as *zero*. The dissolution of icebergs by the action of warm water is very curious. As floating bodies, they assume a position of equilibrium, and in many instances possess stability to resist inclination; but, the air being cold and the water becoming warm, they dissolve beneath, change the form of the parts immersed, are continually losing their stability, and acquiring new *lines of flotation*. In these tumblings of icebergs, air imprisoned in caverns of the ice cause frequent fractures and explosions.

Meteoric phenomena, resulting from two currents of different temperatures and specific gravities, are productive of violent storms



of wind, rain, thunder and lightning, and are of frequent occurrence, near the banks of Lagullas and Newfoundland. We have mentioned the curious fact of the sea at great depths in Baffin's bay being below the freezing point. Now, on the coast of Spitzbergen the temperature at great depths is  $40^{\circ}$ , that is to say, as high as, near the equator, at 1000 fathoms deep.

Captain Scoresby relates, that in latitude  $72^{\circ}$ , on the east coast of Greenland, the temperature of the air was  $42^{\circ}$  the surface of the sea  $34^{\circ}$ , and at a depth of 118 fathoms, only  $29^{\circ}$ . He found a current running out of Scoresby's Sound with icebergs drifting out, and counted about 500 in a day near Cape Brewster. Now, all this would seem to prove that Scoresby's Sound communicated with the polar sea by a channel crossing through Greenland.

Icebergs, floating in an ocean, and enveloped in mist, are exceedingly dangerous, and frequently fatal to the mariner. Not only near the banks of Newfoundland, which are so frequently traversed by our shipping, but also in some parts of the South Atlantic.

His majesty's ship *Guardian*, lieut. Riou, commander, on her passage to New South Wales in the year 1789, struck on an iceberg on the 24th Dec. in latitude  $44^{\circ}$  south, and longitude  $41^{\circ}$  east. Her stern-frame was stove in; she lost her rudder, and received so much damage that she could not be kept clear of water by pumping. A gale of wind blew her sails to pieces, and on Christmas-day the water was above the orlop-deck. The launch, cutter, and jolly-boat left the ship. The jolly-boat foundered, the launch's and cutter's crew were picked up by a French ship bound to the Cape of Good Hope. Lieut. Riou and the remainder of her brave crew kept the *Guardian* from sinking, by securing the lower deck, and placing under it empty casks and other buoyant materials, and throwing overboard all solids that could be spared, and that were specifically heavier than water. This devoted band, by perseverance and natural skill, actually carried the ship to Table Bay, Cape of Good Hope, and ran her on shore two months after she struck on the ice. The pages of the *Nautical Magazine* have frequently recorded melancholy instances of ships having struck against icebergs in the North Atlantic. A most vigilant look-out should be kept by all those who may be near the track of icebergs, borne southward by the Labrador current. During dense fogs, the thermometer, by indicating a change in the temperature of the air or water, will generally give notice of the vicinity of icebergs.

His majesty's packet, *Sphinx*, being on the 1st of August, 1828, in lat.  $43^{\circ} 13'$  north, and long.  $48^{\circ} 23'$  west during foggy weather, her commander was apprehensive of icebergs in this vicinity, and kept a sharp look-out on his thermometer. At 11h. 30m. A.M.



the temperature of the air was  $72^{\circ}$  and that of the sea  $64^{\circ}$ . At 1 o'clock the temperature of the air was  $60^{\circ}$  and of the sea  $50^{\circ}$  indicating a fall of  $12^{\circ}$  in the temperature of the air, and  $14^{\circ}$  in the sea-water, in the short space of  $1\frac{1}{2}$  hour, and at a time when the temperature from ordinary causes should have been raised from 11 to 1 o'clock. The wind south-westerly and very foggy weather, and, no doubt, the Sphinx passed very near to some icebergs. The low temperature continued till 4 P.M. when it began to rise, and at 8 o'clock in the evening the air was again at  $72^{\circ}$  and the sea-water at  $62^{\circ}$ .

July and August are warm months in our hemisphere; the current from the polar regions is then stronger than at any other time, the warm weather dissolving snow in the mountainous regions of Siberia and the northern parts of America, produces a copious discharge from the rivers falling into the polar bason, icebergs are detached from the land, and *launched* into the ocean. Ice formed in, and discharged from the great rivers we have already described, now begins to dissolve, and these concurring circumstances tend to augment the current in the polar seas. A writer in the *Encyclopedia Britannica*, art. "Tides" commenting on the "Studies of Nature" by Mons. St. Pierre, who certainly entertained some erroneous and unphilosophical notions of the form of the earth and theory of the tides, remarks: The melting of ice and snow at the poles cannot produce the smallest motion in the water, were there even ten times more ice and snow floating in the northern seas than there is, and were it all to melt in one minute, for it would only fill up the space which it formerly occupied in the water; of this any person will be convinced who shall put a handful of snow, squeezed hard, into a jar of water, and noting the exact height of the water, let the snow melt, and he will find the water of the same height as before.

The author of the "Studies of Nature" ascribes tidal phenomena to the melting of ice in the circumpolar sea, and the quotation we have given was intended by the writer as a refutation of Mons. St. Pierre's theory, but here the critic has fallen into error himself: he tells us that whatever might be the quantity of ice and snow floating in the polar bason, even if the whole were melted in an instant, that no current would result from its liquefaction—there he is wrong: he then invites the reader to make an experiment, by putting a ball of snow into a bason of water and noting the height of the water's surface before and after the melting of the snow, and he tells us that no difference would be observed in the height of the fluid. Now, if the bason contained salt-water, the writer's statement is wrong again; but if the bason contained fresh-water, his statement is perfectly correct. We shall prove this satisfactorily.

It is an axiom in natural philosophy, that a solid floating in any



fluid will displace a quantity of the fluid exactly of the same weight of the solid or floating body. Now, ice is a solid, and will float in water, a ball of snow will also float, and displace a quantity of water equal to its weight; thus, a pound of snow would as a floating body displace a pound of fresh-water; and if the snow were melted, it would amount to a pound of water, consequently the melted mass under these conditions would exactly occupy the same space within a solid or liquid form, but when masses of fresh-water ice, snow, or field-ice covered with numerous layers of snow consolidated into ice, are floating in the ocean; the conditions are different to those we have given, and the consequence would be different. Sea-water and rain-water are of different densities, and weight for weight occupy spaces inversely as their specific gravities: Suppose for example an iceberg formed in some quiet corner of the circumpolar sea, from rills of fresh-water and snow, by congelation into an enormous mass, and detached from the land à l'avalanche into the sea, it would float in sufficiently deep water, and displace a quantity of the sea-water equal in weight to the iceberg, let its weight be  $\equiv 100,000$  tons, its displacement would be  $\equiv 3,500,000$  cubic feet of sea-water, assuming a cubic foot of sea-water to be equal to 64lbs.; but 100,000 tons of fresh-water ice, or snow, when dissolved would produce 3,558,400 cubic feet of water, because a cubic foot of fresh-water only weighs 1000 oz. or 62½lbs., consequently an iceberg composed of snow and fresh-water ice, and weighing 100,000 tons, would displace 3,500,000 cubic feet of sea-water, but when the iceberg is dissolved, the resulting fluid would occupy a space  $\equiv 3,558,400$  cubic feet, that is to say, an excess above the displacement of 58,400 cubic feet, consequently the melting of snow or fresh-water ice in the polar sea (which is salt, and having a specific gravity of 1026) would produce a southerly current. A current running from the pole towards the equator has a tendency to become more and more westerly, therefore the current from the north clings to the shores of America, and is only compelled to take an easterly direction, by the admixture of its waters with the gulf-stream, a superior current, and composed of a fluid of a greater density.

Thirty-six tons of fresh-water will occupy the *same space* as thirty-seven tons of sea-water, therefore thirty-seven tons of salt-water ice, floating in *fresh-water* would displace thirty-seven tons of the fluid; but if liquefaction should take place, the resulting salt-water would occupy  $\frac{1}{37}$ th less space in the fresh-water than its displacement as a floating body in a solid form. We merely mention this fact as a curious circumstance.

Oceanic currents are now pretty well known, and described in many excellent hydrographical works; those who can bestow time and attention to the subject will find that the liquid portion of our planet, in accordance with the laws of nature, preserves a circu-



lation as beautiful as it is beneficial; dispensing heat to the extra-tropical regions, and moisture to the desert, while cooling streams from polar seas temper the heats of the torid zone.

W. W.

*To the Editor of the Nautical Magazine\*.*

SIR,—In the September number (No. 43) of your periodical, there appeared an interesting article upon the currents of the ocean. In that paper, the following experiment was deduced, to prove the existence of an under-current between two liquids of unequal densities. The writer says :—

“ I procured two glass tubes of three feet in length ; they were placed in a vertical position, closed at bottom, and communicating with each other by means of a small glass tube of one-tenth of an inch in diameter. In one tube I put oil ; in the other salt water : the fluids stood at heights inversely proportional to their densities ; the surface of the oil being higher than that of the saturated water in the contiguous tube. A communication having been made between the surfaces by means of a syphon, the oil flowed to a lower level upon the water. This destroyed the equilibrium that had previously existed at the bottom, and a current began to flow in an opposite direction to that at the surface ; and this continued till the surface of the water in each tube stood at the same height ; and an equal height of oil on both surfaces ; that is to say, an equal column of water occupied the lower part of each tube, and an equal column of oil above the water,—of course all motion ceased.”

I have tried this experiment in every way that my ingenuity can devise, and have failed in every trial. As the whole of the arguments are founded upon this experiment, it is important that the fact should be fully ascertained. Perhaps the writer will favour us with a more minute and circumstantial explanation of the mode of conducting the process in another number of your valuable Magazine.

Φλογ.

October, 1835.

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#### STEAM NAVIGATION TO INDIA, *via* THE CAPE.

*To the Editor of the Nautical Magazine.*

SIR,—Feeling considerable interest in every suggestion relative to steam-navigation, we perused with attention the proposed scheme of communication with India, by the Isthmus of Darien, contained in your number for August last ; and, without meaning to dispute, or question the practicability of the project, provided the proposed canal be undertaken, we can see no probability of the attempt being immediately made. That by the Red Sea has already been proved practical ; and letters from Falmouth, by the March mail, *via* Alexandria, have been received within fifty days (3d March to 22d April) in Bombay. The projected line, moreover, by the Euphrates, is now being experimented upon ; and each will doubtless facilitate greatly the *correspondence* between England and India, and that to a valuable extent. But here, we fear, will terminate the advantages derivable from those lines of steam inter-

\* Our worthy correspondent “ W. W.” will perhaps reply to this.



course with the East, as few persons will, we apprehend, be induced to proceed from Calcutta to Bombay, there to be transhipped to Alexandria, and encounter plague, pestilence, and the chances of massacre among the Arabs, in their transit, prior to undergoing a seclusion of forty days' quarantine after arrival in Malta, ere they can even hope to embark for their final destination, England; making the period of voyaging even from Bombay to Falmouth, not fifty days, like the letters, but ninety, at the shortest; besides the sundry inconveniences as above, to a *robust* constitution, but which to *invalids*, and females with families of young children, would be insurmountable. Whereas a route by way of the Cape of Good Hope is divested of all such obstacles, and affords every facility of adoption; being free from the inconveniences of all risk, whether of health, plunder, quarantine detention, or the perpetual transfer from ship to shore, and back again. One only transfer is proposed at the Cape, but unattended with land journeying of even a mile.

Hence may be traced the reluctance of the India Company to the establishment of the Red Sea line of steam-packets, as they can never hope to reimburse themselves for the outlay by profits on passengers, and letters alone will never do it. Men of enterprise, however, will readily see a very different prospect in the proposed speculation, *via* the Cape; every class of traveller from the Celestial Empire—the invalid, the man of business, the soldier on limited leave of absence, &c.—will gladly avail themselves of such a conveyance; whilst light goods, packages, and the like, will be transmitted by steamers, rather than by sailing vessels of some five months' voyage in expectancy. Steamers to Calcutta, touching at Ceylon, may have (if thought advisable in the course of time) branch vessels from the latter place to Bombay; the voyage from Falmouth to Calcutta, and *back again*, will occupy five months\* and twenty-four days, including stoppages at the various depots for coals, of two days at each place. And, furthermore, these vessels will not interfere with the customary traffic of the India ships in the transfer of their usual cargoes. We should also observe, that, whilst passengers by the Red Sea or Euphrates lines of communication would have to pass through tracts of country over which we can have no control, the whole line of the proposed intercourse by way of the Cape will, with the sole exception of Madeira, be with our own colonies; and even Madeira may, if at any time necessary, be avoided, by substituting Gibraltar as a *dépôt* for coals.

The set of the winds being periodical, blowing from the north between the months of October and March, then changing to the opposite point until the autumnal equinox, in the Indian Ocean,

\* We have only allowed seven knots as the average, whereas she ought to make good nine or ten to and from the Cape and England.



arrangements may be made without difficulty for the vessels so to arrive within their influence, as that those winds shall become subservient in facilitating and expediting the voyages to and from India. Two lines of packets will be requisite, the first from England, touching at Madeira, Sierra Leone, Isle St. Thomas, and the Cape of Good Hope. Here the second series of packets pursue the route, calling at Mauritius, Ceylon, and Calcutta. On the return voyage from the Cape, it will perhaps prove preferable to take St. Helena and Ascension in the way to Sierra Leone, to take advantage of the trade-winds.

But, prior to setting out on our proposed voyage, it is highly essential that we duly consider what *class*, as well as *constructed* vessel, is best calculated for the undertaking; and herein we beg to offer a few suggestions, as well as to refer those interested in steam-navigation to the number of the United Service Journal for May last, wherein we have endeavoured to demonstrate the operation of sails as propellants for steam-vessels, and shewn the error. It will there be seen that the supposition which has long prevailed, that "a vessel may be constructed for the purposes of both sailing and steaming," is a fallacy, and must be abandoned; and the fact that "steam, and not sails, is the legitimate propelling power of *steamers*," be admitted. The construction of the two vessels is different; a steamer must be *flat-floored*, a sailing-vessel *sharp-built*. Each qualification is essential for its particular propellant, and the two forms are at variance with each other. Our purpose is with the steamer, which, for the proposed voyage, should not be less than 1,000 tons; and if built with a long flat floor, full bow,\* flamm<sup>g</sup> out at the top, and clean run aft, will not require engines of more than one-fifth proportion of tonnage; that is to say, a vessel of this description (of 1,000 tons) will be adequately propelled to her utmost speed, by two engines of 100 horse-power each. This is a consideration of magnitude, not only as to "cost of machinery," but in regard to weight of iron in the vessel; and consequently its influence as to a heavy or light draught of water, which of course regulates the "displacement" to be overcome; the resistance being in proportion to the immersion of the ship in the water. We are thus particular in this respect, as *Mr. Laird* gives as the proportion of horse-power to that of tonnage *one-half*, and instances 371 tons as the average of twenty-four vessels out of Liverpool, whose average horse-power is 175, which is very nearly his estimate of one-half. This evidently is attributable to the

\* The flooring and bow (to be made to flam out above) of a Dutch dogger cannot for this purpose be excelled; both qualities contribute to buoyancy, and a bold bow causes a heavy billow to glance off, instead of falling inboard, when on a wind; rises to a sea, instead of driving through it, to the imminent risk of being swamped, (Erin to wit;) prevents her pitching deep; and helps her in lifting to the next wave; all which contribute to velocity, as well as to internal space.



vessels having been built for *sailing* as well as for steaming; consequently are *sharp* ships, and of necessity must draw considerable depth of water. According to his scale, a vessel of 1,000 tons would require 500 horse-power engines, the weight of which averages rather more than half a ton per horse-power, consequently would amount to 250 tons weight of iron, at the least, for engines only, to which add for boilers two-thirds that of the engines, (as the average proportion,) or 166 tons more; making 416 tons weight of iron alone in the engine-room.

It is moreover a mistake to give a vessel more power-engines than is adequate to the attainment of her full speed; for the wheels being calculated to perform a certain number of revolutions per minute, will not exceed that maximum, be the engines ever so large; though, if by the *weight of machinery* she is brought down deep in the water, a great portion of this otherwise unnecessary power will then be required to overcome the resistance thus injudiciously engendered. The same vessel, however, (1,000 tons,) if built as recommended, (for steamers should rather skim over, not cut through a sea,) will not be brought down into the water in anything like the same proportion by her engines, as would be the sharp ship; consequently would not have the same displacement of water to overcome; and it follows, that a less power would suffice. Two engines of 100 horse-power (or one-fifth proportion to tonnage) will be found sufficient; and these not only occupy considerably less room, but their weight will scarcely exceed 100 tons; to which, if we add for boilers, say the outside, or 70 tons, we may estimate the whole at 170 tons, which scarcely exceeds that of Mr. Laird's proportion for *boilers only*, in a vessel of this size, if built on the old construction. Thus, by proper attention to construction, and avoiding the prevalent mistake, that "steamers can be converted into sailing-vessels," we relieve this class of vessel in the proportion of 246 tons weight of iron, and gain the space it would occupy, on a ship of 1,000 tons. Need we fear any lack of fuel from depôt to depôt, with such an advantage of space? Nor will such extra fuel weigh any thing like iron; consequently we need be under no apprehension of bringing the vessel down in the water. Any addition to her draft of water thus created will diminish daily as coals are consumed. We scarcely need, we presume, expatiate on the superiority of Morgan's wheels over all others hitherto introduced, though we certainly are of opinion that they might be furnished at much less expense. No matter, be the cost what it may, have them by all means; for, though of Morgan himself we know nothing, yet of the merits of his invention we feel fully competent to speak.

We beg, in conclusion, to remark, that in estimating the voyage out and home at five months and twenty-four days, we have only allowed an average of seven knots an hour, whereas between



England and the Cape we may insure ten knots, and between the Cape and Calcutta at least eight knots, per hour; which, including stoppages, would enable us to make the voyage *to Calcutta and back again to England* in four months at furthest, which would not greatly exceed the time occupied in *coming from Bombay only*, by the Red Sea, and Malta Lazaretto. From Falmouth to the Cape, including eight days' stoppages, she would arrive in thirty-five days; and from the Cape to Calcutta, including four days for stoppages, twenty-six days; or sixty-one days from England to Calcutta, instead of ninety from Bombay and Malta. If advisable, Madras may also be established as a point of communication.

Your obedient servants,

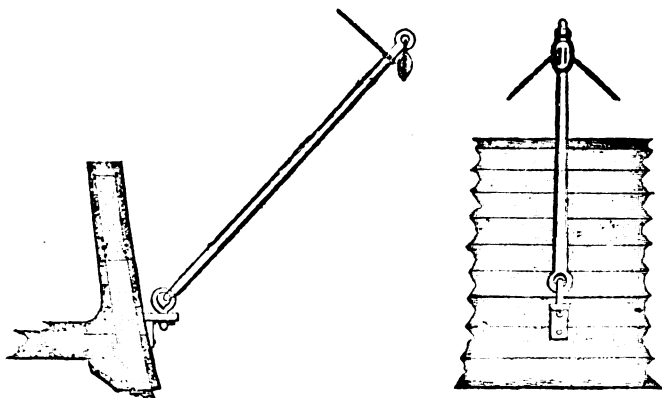
W. H. SYMONS, Lieut. R.N.

ROBERT OTWAY, Lieut. R.N.

*Plymouth. 5th Sept. 1835*

#### IMPROVEMENTS IN FITTING SHIPS—*Bouts' Davits.*

WITH the view of making our work useful to the ship-builder, as we are assured it already is to the navigator, we have inserted on several occasions various improvements in the fittings of his Majesty's ships; and the following simple plan of fitting boat's davits by Mr. Oliver Lang, may not be unworthy attention:—



These davits were fitted to his Majesty's ship *Vernon* in 1832, being made of iron, and will lie in any position, up and down, and



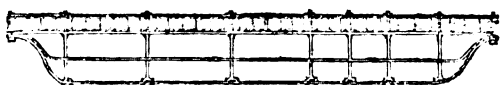
fore and aft, or, if desired, they may be removed entirely from the ship's side at pleasure.

The following suggestion from Capt. Fraser, of the ship *Planter*, is well worthy the attention of our nautical readers :—

*To the Editor of the Nautical Magazine.*

SIR,—It would appear that there are great objections in the present day, to the use of guard-boards in merchant vessels, for giving spread to the lower rigging, as many of the smaller merchant ships are built without them. There can be no doubt that in large vessels, the spread they give to the rigging is essential to its security; but, at the same time, there is no denying that the old-fashioned guard-boards have been always, in heavy seas, a source of annoyance and anxiety to the commanders of merchant ships. The violent shocks produced by the sea rising and striking the vessel under them, are felt in every part of the ship, more particularly when running, and are often truly alarming. The guard-boards, although of thick stuff, with many bolts through the frame of the ship, sometimes are not only split, to the manifest danger of the ship and masts, but even in trying the seizings, after a blow from a sea, they will invariably be found slack; the chainbolts are strained also, and water is then admitted into the vessel. Another consequence is, that ships are always found to decay much sooner in these parts than any other.

To avoid all this, allow me, through the medium of your pages, to suggest the following simple plan as a remedy, which for expense will only be the same, and for durability, and the ease it will afford to a deep-laden ship, will fully answer the purpose, while it allows the same or even a greater spread to the rigging.



In the timbers of the ship's frame, iron bolts are fixed, passing through them, the outer ends of which are fitted with a double head, by which, with smaller bolts and nuts, they are secured to a strong iron band, the iron strop of the dead-eye passing through a groove, as represented in the sketch. I am, Sir, &c.

A. FRASER.



TABLE XXI.

*For reducing Genoese Palms to English Feet and English Feet to Genoese Palms.*

1 Genoese Palm = 1·14534579 English Foot.

1 English Foot = 0·87309876 Genoese Palm.

Palms or Engl. Ft.	English Feet and Dec. parts.	Gen. Palms and Dec. parts.	Palms or Engl. Ft.	English Feet and Dec. parts.	Gen. Palms and Dec. parts.	Palms or Engl. Ft.	English Feet and Dec. parts.	Gen. Palms and Dec. parts.
1	1·145	0·873	41	46·959	35·797	81	92·773	70·721
2	2·291	1·746	42	48·105	36·670	82	93·918	71·594
3	3·436	2·619	43	49·250	37·543	83	95·064	72·467
4	4·581	3·492	44	50·395	38·416	84	96·209	73·340
5	5·727	4·365	45	51·541	39·289	85	97·354	74·213
6	6·872	5·239	46	52·686	40·163	86	98·500	75·086
7	8·017	6·112	47	53·831	41·036	87	99·645	75·960
8	9·163	6·985	48	54·977	41·909	88	100·790	76·833
9	10·308	7·858	49	56·122	42·782	89	101·936	77·706
10	11·453	8·731	50	57·267	43·655	90	103·081	78·579
11	12·599	9·604	51	58·413	44·528	91	104·226	79·452
12	13·744	10·477	52	59·558	45·401	92	105·372	80·325
13	14·889	11·350	53	60·703	46·274	93	106·517	81·198
14	16·035	12·223	54	61·849	47·147	94	107·663	82·071
15	17·180	13·096	55	62·994	48·020	95	108·808	82·944
16	18·326	13·970	56	64·139	48·894	96	109·953	83·817
17	19·471	14·843	57	65·285	49·767	97	111·099	84·691
18	20·616	15·716	58	66·430	50·640	98	112·244	85·564
19	21·762	16·589	59	67·575	51·513	99	113·389	86·437
20	22·907	17·462	60	68·721	52·386	100	114·535	87·310
21	24·052	18·335	61	69·866	53·259	150	171·802	130·965
22	25·198	19·208	62	71·011	54·132	200	229·069	174·620
23	26·343	20·081	63	72·157	55·005	250	286·336	218·275
24	27·488	20·954	64	73·302	55·878	300	343·604	261·930
25	28·634	21·827	65	74·447	56·751	350	400·871	315·585
26	29·779	22·701	66	75·593	57·625	400	458·138	359·240
27	30·924	23·574	67	76·738	58·498	450	515·406	392·894
28	32·070	24·447	68	77·884	59·371	500	572·673	436·549
29	33·215	25·320	69	79·029	60·244	550	629·940	480·204
30	34·360	26·193	70	80·174	61·117	600	687·207	523·859
31	35·506	27·066	71	81·320	61·990	650	744·475	567·514
32	36·651	27·939	72	82·465	62·863	700	801·742	611·169
33	37·796	28·812	73	83·610	63·736	750	859·009	654·824
34	38·942	29·685	74	84·756	64·609	800	916·277	698·479
35	40·087	30·558	75	85·901	65·482	850	973·544	742·134
36	41·232	31·432	76	87·046	66·356	900	1030·811	785·789
37	42·378	32·305	77	88·192	67·229	950	1088·078	829·444
38	43·523	33·178	78	89·337	68·102	1000	1145·346	873·099
39	44·668	34·051	79	90·482	68·975	1500	1718·019	1309·618
40	45·814	34·924	80	91·628	69·848	2000	2290·692	1746·198



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

THE UNIVERSAL SEA LANGUAGE; being a complete Code of Signals for Day and Night, adapted to the use of Vessels of All Nations, and requiring no additional flags or means, but such as are found in every vessel, even the smallest fishing-craft. By LEVIN JÆRGEN ROHDE, Captain in the Royal Danish Navy, &c. Webster, Regent-street.

THIS is an attempt to place in the hands of seamen of all nations, a means of communicating with each other. 'An object of so desirable a nature, we are inclined to look on in the most favourable light, and trust that the result of the trials which we find are about to be made of Captain Rohde's method by our own as well as foreign navies, will lead to its establishment, after any improvements which it may require. Having premised this, we shall proceed to give our readers some explanation of it.

The system employs four flags and a pendant; the flags may be of any kind, but are supposed to be two ensigns and two white flags, (so that table-cloths may be employed,) and the pendant may also be of any kind. By the combination of these, 40 numbers are made; and using these numbers in pairs, 1,560 signals are obtained, no two of the same numbers being paired. The affairs of ships and seamen are divided into seventeen chapters, or heads of information, and the various communications to be made, arranged in each, which division is called the "Greater Code." Information involving figures, such as days of the month, latitude and longitude, and time of the day, as well as any number, is referred to from the "Greater Code" to a "Compound Table," which also contains a geographical list. Such is the scheme of Captain Rohde's signals: it is quite original, and bids fair to overcome the apathy that prevails among our merchant commanders to communicate with each other by signal. To the foregoing, Captain Rohde has also a lesser code, in which he employs three flags only, or, one flag, an ensign, and two shirts! and with these he obtains 127 signals, on the same principle as the former. The idea of a sailor's *chemise* is not bad, but we apprehend that, in point of size, it will not cut so respectable a figure as any flag which he might use with it. In addition to the foregoing, Captain Rohde has also introduced a short series of Pilot signals, also for vessels in distress, and night signals.

There are several good features in this system. By the classification into chapters under different heads, much confusion is avoided that would attend an alphabetical arrangement; but we think that this would be rendered more readily available, if an alphabetical index of reference to the contents of the chapters were given at the end of the work. There are also many communications in these that are rather superfluous, such, for instance, as "I think we shall have thunder," in p. 16; "Your wife has presented you with twins," in p. 20; such information might be, perhaps, superseded by some of a more useful kind. The plan of the Compound Table generally, is good, and the method of giving the latitude and longitude when, in high numbers, neat and appropriate.

We did not, however, intend to have ventured an opinion, and shall here close our remarks, consigning it to those for whose use it is intended, and to whose favourable attention it has peculiar claims.



**NARRATIVE OF A VOYAGE ROUND THE WORLD;** comprehending an Account of the Ship "Governor Ready," in Torres Strait, and a Description of the British Settlements on the North Coast of New Holland, &c. By T. B. WILSON, M.D. Surgeon, R. N. Sherwood.

It is not very long ago that a voyage round the world was looked on as an event of somewhat rare occurrence, and he who had sailed "round about," as it was significantly termed, was looked on as a privileged kind of person. But the days of Cook and Vancouver are passed away, and a circumnavigator is thought as little of now as any one who may have gone from Liverpool to Manchester *via* the rail-road. There are two kinds of circumnavigators, viz. those who are so from duty, and those who become so from pleasure. In the latter class we must rank the author of the work before us.

The works of circumnavigators are generally remarkable for the geographical information which they contain, each availing himself of the discoveries of his predecessors, and adding to the general stock his own gleanings in the vast field of science. In this particular we find that Dr. Wilson has established no small claim to our attention, having added a group of islands to our charts of the coast of New Holland; besides having in many places corrected the hydrography of the parts of the world which he visited. We must reserve for another number the further consideration of these, as our limits will not now allow us to enter fully into their particulars; but we may briefly state, that being wrecked in Torres Strait, on his way home in a ship which had conveyed convicts to New South Wales under his charge, entirely led Dr. Wilson to collect his materials for the present work. After a narrow escape in their passage to Timor in boats with the crew, during which nothing but the most judicious measures, and the strictest observance of discipline, saved them, under the protection of a merciful Providence; he availed himself of opportunities to visit Raffles Bay, Melville Island, Swan River, and Sidney, and eventually returned to England by Cape Horn. At Raffles Bay, Dr. Wilson was present when our settlement at that place was abandoned; a measure at which he expresses regret, and gives an interesting account of the aborigines of that part of New Holland, or rather of Australia, a term which geographers have long agreed to apply to that vast continental island. These accounts form, perhaps, the most important feature of the work.

We shall return to Dr. Wilson's narrative in our next: he touches on many points that fall within our particular province, and treats them in a manner which convinces the reader that he is at once a gentleman, a scholar, a good officer, and (what we were little prepared to find him) a good navigator. We cordially recommend the work to the attention of our readers; it is written in a straightforward unassuming style, and is justly entitled to a place among the records of circumnavigators. The experience of the author, given in the appendix, on the management of convict ships, will be most valuable to his brother officers.

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**THE MERCHANT SEAMAN'S ACT,** with Forms, copious Notes and a full Index. Also the Act for Encouraging the Enlistment of Seamen into the Navy. By C. F. F. WORDSWORTH, Esq., of the Inner Temple, &c. Butterworth. Price 4s. 6d.

THE title of this little work is a sufficient indication of its contents. It should be in the hands of every commander, either of a man of war or a merchant ship. The easy reference which the index gives to it, is a recommendation of



no ordinary kind, and the numerous notes and quotations involving the whole law regarding seamen, in addition to the present act, render it indispensable to any who may have any thing to do with shipping.

NEW CHARTS.

**TRINITY AND CONCEPCION BAYS, NEWFOUNDLAND.** Surveyed by M. Lane in 1775, and corrected by Commander F. Bullock, R.N. in 1826. Size, half double-elephant. Price 2s. 3d. Admiralty. No. 602.

This chart gives the details of the coast on the scale of about three miles and a half to the inch. It contains besides, an enlarged plan of Trinity Harbour.

**CORK HARBOUR.** By Captain Martin White, R.N. 1820. Size, quarto. Price 6d. Admiralty. No. 80.

A small plan, shewing the whole of the harbour on the scale of two inches to the mile. The channel is distinctly marked by the buoys, and, with the assistance of this plan alone, a vessel might run for the anchorage. Captain White's being only a partial survey, the deficient coast-line has been introduced from Admiral Knight's old plan.

**THE HARBOUR OF BAHIA, OR SAN SALVADOR, on the Coast of Brazil.** Quarto. Price 6d. Admiralty. No. 1033.

We find here additions to the present time, in the shape of soundings, and leading marks. The San Antonio bank, that bugbear to ships frequenting Bahia, is well defined, and the soundings between it and the shore well marked. We have before now recommended this inner passage, and here is ample proof that they may take it with safety.

**THE HARBOUR OF POOLE AND STUDLAND BAY.** Surveyed by Lieut. M. M'Kenzie, R. N., 1785, and corrected by Lieut. T. Sparke, R.N. 1829. Quarto. Price 1s. 3d. Admiralty. No. 21.

This plan shews the state of the harbour at the time of the survey by Lieut. M'Kenzie, the additions of Lieut. Sparke being principally about the entrance. It is a useful little plan, on a scale of more than two inches to the nautical mile.

H. M. S. PIQUE.

*To the Editor of the Nautical Magazine.*

SIR,—No one could have desired a more convincing proof of the importance of an invention, than has been afforded by the accident that has befallen the Pique. It is generally admitted by every one who has examined the bottom of this vessel since she has been in dock, that her safety may be attributed to her peculiar construction. First, her keel is constructed on the principle of Mr. Oliver Lang, a drawing of which you gave in one of your early numbers.\* In describing it, you stated, that "if a vessel gets aground, the false and outer keels may be both carried away by beating against the rocks, without the danger

\* Vol. i. Naut. Mag. p. 361.



of admitting water into her; and she may even then undergo a further grinding on the rocks, till the keel, with the mass of timber about it, is fairly broken away, which will afford sufficient time to save her from destruction, if it be possible.\* How completely has this been verified in the case of the *Pique*. Both of these keels, fore and aft the vessel, have been fairly ground away, besides a considerable mass of the timber about them, and the vessel has been happily saved from destruction, and brought her crew home in this condition, besides also without a rudder. This must be gratifying to Mr. Lang; and I leave him to the enjoyment of his feelings in being the inventor of the "Safety Keel;" and his satisfaction will perhaps be further increased, when the *Cleopatra* and *Vestal*† return home, both of which ships have been on shore, one in the West Indies, and the other on Lissoe Island in the *Cattegat*.

At the same time, I may next observe, that the rising floors adopted by Captain Symonds are admirably calculated to assist towards allowing a ship to come off again after having grounded. In your number for January last, there is a plan of the midship sections of the *Vernon*, *Snake*, and *Serpent*, compared with those of other ships. It is evident there, if the *Vernon's* keel, for instance, was on the ground, the vessel even being upright, that the parts of her bottom would be in a very different condition from those of the *Endymion*; and that should she be lying on her bilge,‡ which would perhaps be the case, she would even then be better off.

The form of the *Pique's* bottom being precisely similar to those of the rest of Captain Symonds' ships, gave her this advantage, and she floated off, after suffering in a manner in her keels, (for above them, from a moderate distance, all was untouched,) that would have been fatal to a vessel of another construction. I may also observe, that it has been found from sights placed on board her while afloat, that her sheer was not strained in the slightest degree when she was in dock, a convincing proof that she is as strong as wood and iron can make her. Another advantage she had, and which contributed much to keep the water out of her, was her having the solid bottom long since adopted by Sir Robert Seppings. Every one allows, who has seen the *Pique*, that it is next to a miracle that the vessel reached Portsmouth; and had not the above three advantages been united in her construction, there can be little doubt that she would not have done so.

I am, sir, yours, &c.

A NAVAL OFFICER.

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**THE COMPASS.**—An experiment of the most interesting kind, and one which, in its results, will materially affect a new branch of ship-building, if we may so term it, is now being made by Commander Johnson, R.N. This officer has been directed by the Lords Commissioners of the Admiralty, at the request of Messrs. Laird and Son, of Liverpool, to make a series of observations on the local attraction, or deviation, of the compass in an iron steam-vessel. If it be found possible to meet the effects produced either by correction or allowance for them, under all circumstances, there will be no impediment to the construction of these vessels on a large scale for sea voyages, but if the effects be

\*Mr. Lang's keels are generally adopted in H. M. ships.

† The *Vestal*, 26, Captain W. Jones, recently got aground on the coast of La Guayra, when she was obliged to start her water, and throw her guns overboard; she fortunately, however, floated off at the expense only of sixty feet of false keel, and she recovered her guns, having taken the precaution of buoying them.

‡ We have witnessed this experiment on the models of the Royal *Adelaide* and the *Caledonia*; the former, when down to her bearings, was immovable with a certain force; while the latter, with the same force, was placed on her broadside. We hope, in our next, to lay before our readers a Drawing of the *Pique*, shewing the state of her bottom as it appeared in dock.



found such as to derange the free action of the compass, so as to render it unavailable in them, they will be confined to their present purposes of inland navigation. The first vessel of this kind ever sent to sea was the *Alburkha*.<sup>\*</sup> She made the voyage from Liverpool to the coast of Africa, and is now in the river Niger; and we believe that her behaviour at sea was such as to remove all doubts that had arisen respecting her efficiency. She was not only cooler in the warm climate of Africa than her companion, the *Quorra*, (wooden vessel,) but also much healthier.

We understand that Captain Johnson was selected for this service in consequence of the numerous experiments he has made in this branch of science, some of which were lately submitted to the attention of the Royal Society, and, that his present investigations may be as complete as possible, he has been furnished with the best instruments by the Admiralty, besides complete sets of Professor Barlow's correcting-plates. The experiments will be made under every variety of circumstances, while the fires are lighted as well as extinguished, and they will be made on board more than one vessel of this kind, the largest of which will be 300 tons, on the river Shannon.

THE *Vanguard*, (80 guns,) lately launched at Pembroke, arrived here, and came into the harbour yesterday. This fine ship is a splendid specimen of ship-carpentry, and an elegant model as a man of war. She has large ports, and great space between her guns, possessing better quarters and affording more room for the men at the guns than any ship in the navy; she is fitted internally for service at sea, and will soon be commissioned.

The *Vanguard* is the broadest ship ever built in England, and will lodge, mess, and berth her men and officers more commodiously than any other ship in the service. These important advantages, so conducive to the health and comfort of the men, and which can only be appreciated by naval men, are obtained without any sacrifice of other essential properties as a man of war: to great space, and ample dimensions, she possesses quickness of evolution, easy motion, great stability under sail, and velocity through the water. She encountered rough weather in reaching this; and the officer in command informed us that she worked down and out of Milford haven against a south-west wind and considerable sea; that she is a fine sea-boat, a fast sailer, and a *handy* ship; that she ran, under jury-masts, with all reefs out at the rate of 13 knots an hour. On the night of the 18th inst. it blew a hard gale of wind from south, with heavy rains and thick weather; the *Vanguard* was caught by this gale in a position between Dunnose and the Owers, and under her close-reefed jury top-sails, fore-sail, and close-reefed driver, she worked off the shore, and gained an offing.

The ease, rapidity, and elegance with which this fine ship performed the evolutions of tacking, wearing, &c. at Spithead was witnessed by many distinguished naval officers, several of whom were on board of her at the time, and expressed themselves highly pleased with the performance of this fine *new-class* line-of-battle ship.

*Portsmouth, 20th Sept. 1836.*

WESTERN PORTS.—Much has been said of late about surveys of the western ports of Ireland, from whence a communication is to be established with the United States, Nova Scotia, Canada, &c. Thus, we have heard of Blacksod Bay, or Broadhaven, being selected as a termination for a great western railway across Ireland. But, if a western port be wanted, we would recommend projectors to turn their attention to Valentia, which place, as a harbour,

<sup>\*</sup> See a spirited sketch of her in vol. . . p. . . of this work.



has natural advantages far superior to any other on the coast of Ireland, and will some day or other become, as it ought to be, the grand focus of communication between Great Britain and the western world.

**THE PIQUE FRIGATE.**—Five days after the Pique left Quebec, she reached the entrance of the Straits of Belle Isle, having taken that passage from the force of the southerly winds; and it is not a little singular, that she entered the St. Lawrence through that unusual passage, on her way out with Lord Gosford, having been driven to the northward from the same cause. On the evening of the 22nd the wind was on her quarter, and she was making rapid progress; but the wind freshening about nine o'clock, the studding-sails were taken in, and the courses hauled up. At half-past ten the fore-topsail was on the cap, and the men were lying out to reef the sail, when Captain Rous (who was on the gangway) saw breakers close to the ship and ahead. The helm was instantly put down, and the ship readily answered it, but in doing so she struck with great violence on the rocks, and, excepting being lifted by the sea as the waves came in, she was immoveable. She was going about seven knots at the time, and the weather was thick and foggy; and though the ship was not fifty yards from the rocky beach, the land was not discerned till day-break. It was about half-ebb when she struck; but as the tides do not rise or fall much, she continued to lift and strike, with the exception of perhaps an hour, until she was hove off on the following morning at nine.

Here the beauty of Capt. Symonds' system was eminent, for had she been a common flat-floored ship, she would have bilged; but as she is constructed, all the mischief was spent on her false keel and kelson. On her first striking, the boats were got out, and the master sounded round her, and two or three anchors were got out astern; twenty guns were thrown overboard, as was the most considerable part of her shot, and about one hundred tons of fresh water were started and pumped up. The crew were very active, but such was the order observed, that they piped to breakfast as usual the next morning, and they had not been down more than a quarter of an hour, when Captain Rous found the ship move a little; the cables astern had been hauled taught, the men were turned up, the capstans quickly manned, and she was hove off with apparent ease, and subsequently was got into Ance au Loup, or Wolf's Cove, and by the next morning was put to rights, and went to sea.

On the following Sunday, the wind blowing fresh, a violent sea struck the rudder, some of the pintles and gudgeons of which must have been broken while thumping on the rocks, and tore it from the stern-post. In a short time, however, a temporary one on Capt. Symonds' plan was got ready, but it was found to strike so violently against the stern-post and counter, that it was cut away, and the carpenter soon made a second, on Pakenham's plan, which was fixed, and the ship was steered by it for some days, when that was obliged to be cut away, from the ragged state of the bottom and copper having chafed, and cut the guys which were led forwards. The ship was now steered without a rudder for 1400 miles, and when she rolled much, made more than three feet water an hour; and from the time of her getting off the rocks until her arrival in this harbour, never less than twenty inches.

On Sunday evening last, a N.N.W. wind had driven her over to the coast of France, but as an excellent reckoning had been kept of her longitude, they made the Caskets lights (within a mile of where they were expected to be seen) ten miles distant; at nine o'clock that night, she came to an anchor in forty fathoms, with a good range of cable out; and on Monday morning sent a vessel, which offered her assistance, into Guernsey, for any steamer that could be found. Soon after noon, however, the wind being southerly, she weighed,



and providentially reached St. Helen's anchorage early on Tuesday morning, steered only by a cable astern, with a gun carriage attached to the end of it.—Her signals for assistance were quickly answered from the Dock-yard, and Mr. E. M. Hepburn, with three dock-lighters, and the Admiral's tender, went immediately to her help. An attempt was made to tow her into harbour that morning, but, the hawsers breaking, she brought up again before she reached Spithead, and on Wednesday she was towed into harbour by the Brunswick, Plymouth steamer, there being no Government steamer here.

The *Pique* saw only four French brigs during her distress; two of them passed her unheeded—the third, [having] hove-to near her, at a time when the *Pique* leaked freely, and without a rudder, it was determined to put Lord and Lady Aylmer, and the sick, with some soldiers' wives, on board of her, she being bound to Bourdeaux; but on the carpenter going on board to examine her, and finding her in as leaky and helpless a state as the *Pique*, they separated.—The fourth vessel promptly rendered assistance, and towed round the *Pique's* head, so as to put her before the wind; she had then been lying some hours in the trough of the sea, and attempts had in vain been made to get her into the position desired; but no sooner had the brig put her in that position, than the *Pique* shot ahead, and thereby frustrated any further assistance from the brig, which could not keep way with her. To be ready for the worst, the boats were made as sea-worthy as possible; a quantity of pork was cooked and coopered up in small casks, as were also bread, water, and spirits; and to ease the labouring of the ship, four additional guns were thrown overboard in the Atlantic.

No words can describe the admirable conduct of the crew during all this difficulty and danger; they worked hard and willingly; they saw that promptitude only could preserve the ship and their lives, and they had confidence in their officers. The self-command of Captain Rous throughout the whole was pre-eminent, and had such a moral influence over the subordinates, that his orders were at once understood and obeyed—indeed, the safety of the ship mainly depended upon the exercise of great coolness and decision. She will be taken into dock on Monday, when the full extent of the injury she has sustained will be learnt. It will scarcely be believed, that after the millions spent on our Dock-yard, this frigate could not be taken into dock yesterday for want of depth of water.\*—*Hants. Tel.*

#### COURTS MARTIAL.

A Court Martial was held on the 19th Oct. on board the *Victory* (hulk to *Britannia*), composed of Rear-admiral Sir Frederick Maitland, K.C.B. President, and Captains Lord Adolphus Fitz-Clarence, A. T. E. Vidal, E. R. Williams, H. Eden, F. W. Beechey, and T. Hastings, with James Hoskins, esq. as Judge Advocate, to try Captain Seymour, and the officers and ship's company of his Majesty's late ship *Challenger*, for the loss of that ship, at Molguilla, on the 19th May :—

*Sentence*—"The Court is of opinion, that the cause of the loss of his Majesty's late ship *Challenger*, was by the ship being then, by an unusual and unexpected current, set between noon of the 17th May last to the time of her wreck, on the 19th of the same month, 34 miles of latitude to the southward, which latitude, by dead reckoning, up to the time of taking the sights, being used to work the sights of the chronometer, on the morning of the 19th May, placed the ship 60 miles to the N.W. of her actual position at that time. The Court is further of opinion, that no blame whatever is attached to Captain

\* We hope to give our readers some further account of the *Pique* in our next.



Michael Seymour, nor to the said John M'Donald, nor to any of the officers or ship's company of his Majesty's late ship *Challenger*, on the occasion of the loss of the said ship; and the Court doth therefore fully acquit the said Captain Michael Seymour, the said Mr. J. M'Donald, and the surviving officers and ship's company of his Majesty's said late ship *Challenger*, and they are hereby fully acquitted accordingly.—The Court cannot close its proceedings, without expressing the high sense it entertains of the conduct of Capt. Michael Seymour, his surviving officers, and ship's company, when placed in circumstances of the greatest danger, as well as afterwards during a period of seven weeks that they remained on a wild and inhospitable coast, strongly marking the advantages of that steady discipline that has raised the British navy to the confidence of the country, and which, in this instance, as well as in many others, has been the cause of the preservation of the lives and health of the crew, and of their arrival, with two melancholy exceptions, in safety in their own country."

[We have been obliged to reserve the *Challenger's* loss for our next number.]

A Court Martial was also held on the following day, (composed of the same members,) to try Captain the Hon. H. J. Rous, and Mr. Hemsley, Master, of his Majesty's ship *Pique*, for having, on the 22nd September, run that ship on Point Forteau, on the coast of Labrador, on her passage to England, from Quebec :—

*Sentence*—"The Court is of opinion, that from some cause which had not been accounted for in the evidence, his Majesty's ship *Pique* was four miles to the northward of the situation, that the course and distance run between 25 minutes after 6, when the ship's position was carefully determined, and 20 minutes after 10, would have placed her in; by which means she run upon Point Forteau, when those on board had every reason to suppose that the ship was 4 miles distant from the land. The Court was further of opinion, that no blame is attached either to the said Captain the Hon. H. J. Rous, or to the said Mr. William Hemsley, for their conduct on that occasion, inasmuch as they had a personal knowledge of the Straits of Belle Isle, having beat through them on the passage to Quebec, and ascertained the coast of Labrador to be safer to approach than the opposite shore. The Court does therefore fully acquit both the said Captain the Hon. H. J. Rous, and Mr. Wm. Hemsley; and they the said Captain the Hon. H. J. Rous, and Mr. Wm. Hemsley, are hereby fully acquitted accordingly."

[We regret that our space will not allow of our giving more particulars of these Court Martials.]

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**CONSUMPTION OF TIMBER BY THE NAVY.**—The annual demand of timber for the Royal Navy in England, in war, is 60,000 loads, or 40,000 full-grown trees, a ton each, of which 35 will stand on an acre. In peace, 32,000 tons, or 48,000 loads. A 74-gun ship consumes 3,000 loads, or 2,000 tons of trees, the produce of 57 acres in a century. Hence, the whole navy may consume 102,600 acres, and 1,026 tons per annum.—*Hull Paper*.

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A Guinea negro was picked up at sea, in the Gulf Stream, by the schooner *Emeline*, 640 miles from Cuba, and taken to Portland, (U. S.) He was in a canoe, and had left Cuba, to escape from slavery under a hard master. He had been from Congo, in Africa, only five or six months, and was almost exhausted when fallen in with by the schooner. General Fessenden has taken him into his family.—*Boston Journal*.



## Naval Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—OCTOBER 21ST, 1835.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, BRITANNIA, 120.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, ROYAL ADELAIDE, 104.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, HOWE, 120.

ASTREA—Falmouth.  
 BRITANNIA, 120—Portsmouth.  
 CLEOPATRA, 26—10th Sept. left Sheerness, with Countess of Durham, for St. Petersburg; 22d Sept. arrived at Elsinore, having been on shore off Leasoe.  
 EXCELLENT, late BOYNE—Portsmouth, for the practice of naval gunnery.  
 HARRIER—Portsmouth, fitting.  
 HOWE 120—Sheerness.  
 NIMROD—Plymouth, fitting.  
 OCEAN, 80—Sheerness.  
 PIKE, 12—Was spoken with on the 23d July off Cape Finisterre, by H.M. steamer African.

PORTSMOUTH, *Yacht*—Portsmouth.  
 PRINCE REGENT *Yacht*—Deptford.  
 QUAIL—Portsmouth station.  
 RODNEY, 92—Plymouth, fitting. To be ready for sea early in Nov.  
 ROYAL GEORGE *Yacht*—Portsmouth.  
 ROYAL SOVEREIGN *Yacht*—Pembroke.  
 ROYAL ADELAIDE, 104—Plymouth.  
 SEAFLOWER, *Cutter*, 4—18th Sept. sailed for Jersey.  
 SNAKE—Sheerness, fitting.  
 SPEEDY, *Cutter*—Portsmouth station.  
 WANDERER, 16—24th October at St. Helens.  
 WILLIAM AND MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CAMELEON, 10—15th Sept. in the Tagus.  
 CASTOR, 36—30th Sept. at St. Andero.  
 CLIO, 16—5th Sept. in the Gambia.  
 HASTINGS, 74—In the Tagus 13th Oct.  
 NIMROD, 20—10th July north coast of Spain.  
 MAGICIENNE, 26—5th Sept. in the Tagus; arrived on 9th from north coast of Spain.  
 PEARL, 20—19th Oct. arrived at Plymouth from Lisbon. Moved into harbour to refit.  
 PHENIX—St. V.—North coast of Spain. 3d Oct. left Portsmouth.  
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RINGDOVE, 16—Oct. north coast of Spain.  
 ROYALIST, 10—Oct. north coast of Spain.  
 RUSSELL, 74—Oct. north coast of Spain.  
 SARACEN, 10—Oct. north coast of Spain.  
 STAG, 46—4th Aug. cruising off the Gambia.  
 TWEED, 20—5th Sept. in the Tagus.  
 VIPER, 6—22d Aug. arrived at Lisbon from Fayal.  
 WATERWITCH, 10—Oct. north coast of Spain.

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## MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St. V.—10th Sept. left Constantinople for Corfu.

BARHAM, 50—18th Sept. left Constantinople for Corfu.

CALEDONIA, 120—16th June at Malta.

CANOPUS, 84—2d June at Piræus.

CEYLON, 2—Malta.

CHILDERS, 16—8th Oct. at Cadiz.

COLUMBINE, 18—16th June Malta; 22d sailed.

EDINBURGH, 74—2d June at Piræus.

ENDYMION, 50—8th Oct. at Cadiz.

FAVORITE, 18—29th Aug. left Malta for Smyrna.

JASEUR, 18—Sept. at Malaga.

MALABAR, 74—5th Oct. at Cadiz.

MEDEA, 6—2d June at Piræus.

ORESTES, 18—28th Aug. left Malta.

PORTLAND, 52—22d Aug. sailed on a cruise.

PLUTO, St. V.—15th Sept. sailed for Odessa.

REVENGE, 78—27th Aug. left Malta.

SAPPHIRE, 28—27th June arrived at Malta; 28th sailed for Prevesa.

SCOUT, 18—25th Sept. arrived at Spithead; 29th arrived at the Nore.

THUNDERER, 84—2d June at Piræus.

TRIBUNE, 24—8th Oct. at Cadiz.

TYNE, 28—8th Aug. at Barcelona. To sail for Alicant.

VERNON, 50—2d June at Piræus.

VOLAGE, 28—26th Aug. at Therapia.

## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—4th Oct. arrived at Portsmouth from the Gambia.

BRITOMART, 10—30th Aug. at Ascension.

BUZZARD, 10—June Bight of Benin.

CHARYBDIS, 3—24th July left St. Helena for the Cape.

CURLEW—Aug. at Sierra Leone.

FAIR ROSAMOND, *Schooner*—June in Bight of Benin.

FORESTER—21st June off Prince's Island.

GRIFFON, 3—July in the Gambia.

LYNX, 10—June Bight of Benin.

PELICAN—4th July arrived at Cape from Ascension.

PYLADES, 18—3d Oct. sailed for Africa.

ROLLA, 10—Aug. at Sierra Leone.

THALIA, 46—15th Aug. at Ascension.

TRINCULO, 18—June in Bight of Benin.

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ANDROMACHE, 28—25th April left Bombay for a cruise.

HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th February left Sydney for Twofold Bay.

RALEIGH, 16—17th June at Bombay.

RATTLESNAKE, 28—17th June at Bombay.

ROSE, 18—18th April at Singapore, from Malacca.

VICTOR, 18—7th June at Cape; 11th sailed for Mauritius.

WINCHESTER, 52—21st April sailed for Bombay.

WOLF, 18—5th Feb. sailed from Algoa Bay for India.

ZEBRA, 16—12th March sailed for Trincomalee.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*, PRESIDENT, 52.

BELVIDERA, 42—16th July off St. Paul's, Gulf St. Lawrence.

CHAMPION, 18—16th July arrived at Port Royal; 8th Aug. arr. at Halifax.

COLUMBIA, St. V.—4th Oct. arrived at Portsmouth from Jamaica.

COMUS, 18—16th Aug. left Jamaica for Honduras.



**CRUIZER**, 18—18th July at Barbados.  
**DEE**, St.V. 4—7th Aug. at Jamaica.  
**DISPATCH**, 18—22d Sept. arrived at Portsmouth from Halifax; 23d sailed for Chatham to pay off.  
**DROMEDARY**—Bermuda.  
**FLAMER**, St.V.—Running with mails between Jamaica and Barbados.  
**FORTE**, 44—26th Aug. arrived at Quebec.  
**GANNET**, 18—11th Aug. at Halifax.  
**LARNE**, 18—29th July at Barbados.  
**MAGNIFICENT**, 4—Port Royal.  
**PICKLE**, 5—16th July at Port Royal.  
**PINCHER**, 5—Tender to flag-ship, 8th Aug. sailed for Chagres.  
**PIQUE**, 36—Left Quebec 17th Sept. with Lord Aylmer and suite; 13th Oct. arrived at Portsmouth, having been on shore in the Gulf of St. Lawrence; 19th taken into dock. To pay off.  
**PRESIDENT**, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 26th Aug. arrived at Quebec.  
**RACER**, 16—7th Aug. arr. at St. John's; 19th sailed for Labrador coast.

**RACEHORSE**, 18—1st June at Para.  
**RAINBOW**, 28—7th Aug. at Jamaica.  
**SAVAGE**, 10—11th Aug. arrived at Barbados and sailed for Grenada.  
**SCYLLA**, 18—2d Aug. at Jamaica, from Chagres.  
**SERPENT**, 16—By letters received from his Majesty's ship *Serpent*, dated on the 13th ult. at Havannah, we learn, that on her passage from Jamaica to Nassau, New Providence, on the 29th June, she fell in with, and, after a spirited chase, captured the Spanish schooner *Sita*, having on board 394 slaves, with 32 crew and passengers, between Capo Maizie, the east part of Cuba, and Great Image, and carried her into Havannah. She was out only thirty-nine days from the coast of Africa, and had only lost six slaves.—*Hants. Telegraph*.  
**SKIPJACK**, 5—7th Aug. at Port Royal.  
**SPITFIRE**, St.V.—11th July arrived at Jamaica from Barbados.  
**VESTAL**, 26—9th July at Barbados.  
**WASP**, 18—14th June at Carthagenia.

#### SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, DUBLIN, 50. 2d June.

**ACTÆON**, 28—31st May in River Plate.  
**BASILISK**—6th July left Rio for Valparaiso.  
**BLONDE**, 46—4th June at Callao from Valparaiso.  
**CHALLENGER**, 28—Wrecked on the coast of Chili 19th May.  
**COCKATRICE**, 6—Running between Rio Janeiro and Buenos Ayres.  
**CONWAY**, 25—Left San Blas 23d April; 13th Oct. arrived at Portsmouth, with the officers and crew of the *Challenger*; 17th moved into harbour, to pay off.

**DUBLIN**, 50—30th Aug. Rio Janeiro.  
**HORNET**, 6—Running between Monte Video and Rio Janeiro.  
**NORTH STAR**, 28—6th July left Rio for Valparaiso.  
**RAPID**, 10—6th July left Rio.  
**ROVER**, 16—30th June at Rio from Pernambuco.  
**SATELLITE**, 18—Ordered home; 18th June at Callao.  
**SPARROWHAWK**, 18—25th July at Valparaiso.  
**TALBOT**, 28—24th May left the Cape for Rio. Arrived 22d June.

#### TROOP SHIPS.

**ATHOL**, *Troop Ship*—9th Sept. arrived at Plymouth from Cork.  
**BUFFALO**, *Store Ship*—Portsmouth.  
**JUPITER**, *Troop Ship*—3d Oct. sailed

from Spithead, with Lord Auckland and suite, for India.  
**ROMNEY**, *Troop Ship*—21st May spoken in lat. 46° N. long. 9° W.

#### STEAM VESSELS.

**AFRICAN**—See Packets.  
**ALBAN**—See Mediterranean Station.  
**BLAZER**—Woolwich, ordinary.  
**COLUMBIA**—See West Indies.  
**CARRON**—Surveying.  
**COMET**—Woolwich, ordinary.

**CONFIANCE**, 2—Running with mails between Malta and Corfu.  
**DEE**, 4—See North American Station.  
**ECHO**—Woolwich, ordinary.  
**FIREBRAND**—25th Oct. at Woolwich.



**FIREFLY**—See Packets.  
**FLAMER**, 6—See West India Station.  
**HERMES**—Woolwich.  
**LIGHTNING**—1st Aug. arrived at Plymouth.  
**MEDEA**, 6—See Mediterranean Station.  
**MESSENGER**, 1—25th Oct. Woolwich, fitting.  
**METEOR**—5th Sept. at Teneriffe, on her way to Jamaica.

**PHŒNIX**—See Lisbon Station.  
**PLUTO**—Mediterranean.  
**RHADAMANTHUS**—Woolwich, fitting.  
**SALAMANDER**—Woolwich. Ordinary.  
**SPITFIRE**, 6—See West India Station.  
**TARTARUS**—Lieut. James sailed from Woolwich 3d July, with the Hon. Henry Ellis, Ambassador to Persia, and suite on board, for Malta.

## SURVEYING VESSELS AT HOME AND ABROAD.

**ÆTNA**, 6—At Portsmouth, fitting. Paid off, and recommissioned by Capt. A. T. E. Vidal, 10th Oct.  
**BEACON**—Archipelago.  
**BEAGLE**, 10—Coasts of Patagonia and Chili.  
**CARRON**, St. V., Com. E. Belcher, surveying St. George's Channel.  
**FAIRY**, 10—North Sea.  
**GULNARE**, Hired Schooner—Gulf of St. Lawrence.  
**INVESTIGATOR**, 16—Orkney Islands.  
**LARK**—Fitting at Sheerness.  
**MASTIFF**, 6—Archipelago.  
**RAVEN**—Arrived with Ætna.

**SULPHUR**—Portsmouth, fitting.  
**THUNDER**—3d March sailed for Honduras.

## OFFICERS EMPLOYED IN SURVEYING AT HOME.

Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.  
 Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.  
 Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.  
 Lieutenant C. G. Robinson.—North Coast of Wales.

## PAID OFF.

**BRISK**—16th Oct. Portsmouth.  
**CHALLENGER**—Crew paid off Portsmouth 23d Oct.  
**DISPATCH**—Chatham.  
**FLY**—2d Oct. at Plymouth.

**PELORUS**—26th Sept. at Portsmouth.  
**SCOUT**—6th Oct. Sheerness.

## [ COMMISSIONED.

**HARRIER**—25th Sept. Portsmouth.  
**NIMROD**—27th Oct. Plymouth.  
**SNAKE**—Sheerness.

## APPOINTMENTS.

## PROMOTIONS.

**CAPTAIN**—G. Back.  
**COMMANDERS**—Hon. S. F. Pelham, W. P. Johnson.  
**LIEUTENANTS**—H. Coryton; G. P. Back; H. L. Maw, reinstated; F. S. Pelham.  
**SURGEON**—T. H. Nation.

## APPOINTMENTS.

**ÆTNA**, Surv.V.—Capt. A. T. E. Vidal; Lieuts. J. M'Cleverty, H. Loring; Mates, W. P. Moneypenny, R. Ellis, W. H. Church; Mids. R. Hooper, C. B. Yule; Vol. 1st Class, R. W. Saunders, P. Wray, H. Price; Clerk, W. B. Pearse.  
**ASCENSION ISLAND**—Surgeon, J. G. Stewart.

**BLONDE**, 46—Lieut. A. G. Rothery; Clerk, E. D. Back.  
**BRITANNIA**, 120—Mid. E. Mathews.  
**CLEOPATRA**, 26—Capt. Hon. G. Grey; Lieut. F. Liardet; Surgeon, G. Allen; Mate, J. Wilson.  
**COAST GUARD**—Coms. S. W. Johnstone, W. J. Cole, F. Edwin, R. Stewart, A. Sharp; Lieuts. G. M. Laugtry, G. Gahan, C. W. Ross, J. Richards.  
**COLUMBINE**, 18—Purser, G. Clarke.  
**DEE**, St. V.—Lieut. E. Bullen.  
**DISPATCH**, 16—Lieut. H. Broadhead.  
**DUBLIN**, 50—Lieut. J. Dick.  
**FORTE**, 44—Lieut. J. J. Robinson.  
**GREENWICH Outpensioner**—Lieut. R. Yule.  
**JUPITER**, en flute—Capt. Hon. F. W. Grey; Lieut. J. R. Baker; Assist. Surg.



- P. M'Cluer; *Mid.* H. Bamber; *Clerk*, C. Blythe.
- HARRIER, 18—*Com.* Carew; *Lieuts.* R. B. Crawford, J. W. Morgan; *Master*, Act. R. W. W. Miller; *Surg.* Dunn, M.D.; *Purser*, J. Grant; *Assist. Surg.* J. J. D. Bourne; *Mates*, J. Williams, G. E. Adams; *Mids.* F. G. Leigh, C. F. Perkins; *Vol. 1st Class*, A. F. Shaw; *Clerk*, W. Meredith.
- HERMBS, St. V.—*Lieut.* W. S. Blount.
- LARK, Surv. V.—*Lieut.* E. Barnett; *Mate*, J. Cashman; *Mid.* J. Woodman; *Clerk*, J. M. Starke.
- LEVERET, 10—*Lieut.* T. Bosanquet; *Assist. Surgeon*, J. Arnott.
- LINNET, Packet—*Lieut.* W. Downey; *Assist. Surgeon*, E. Newan.
- MILFORD, Superintendent of Packets—*Com.* T. Bevis.
- NIMROD, 20—*Lieuts.* E. Pierce, C. Ross; *Master act.* G. Grant; *Surgeon*, J. L. Clark; *Purser*, R. Simmons; *Mate*, E. L. Hoblyn.
- PHŒNIX, St. V.—*Lieut.* W. Robson; *Mate*, T. Heard; *Mid.* S. Gordon; *Surgeon*, J. W. M'Donald.
- PORTLAND, 52—*Assist. Surgeon*, R. Fairservice.
- PINCHER, 5—*Lieut.* G. Byng.
- PYLADES, 18—*Lieut.* P. Rainier, C. Dimock, F. Blair; *Mate*, E. R. Power; *Mid.* W. P. Christopher; *Clerk*, J. W. Nicholla.
- QUAIL, Cutter—*Assist. Surg.* J. Robinson.
- RECOVERY, Convict Ship—*Surgeon*, Wheel.
- RODNEY, 92—*Master*, J. Hoffmeister; *Purser*, W. Knapton; *Chaplain*, Rev. H. Malet; *Schoolmr.* G. Dittman.
- SEAFLOWER, Cutter—*Sec. Mast.* E. Williams; *Mate*, J. B. Stewart; *Mast. Assist.* W. Blackforce.
- SNAKE, 16—*Com.* R. Warren; *Lieut.* R. Milbanke; *Mast. Act.* W. Jeffery; *Surgeon*, Gunn, M.D.; *Purser*, A. Laidlaw; *Mate*, J. Allen; *Mid.* J. Miller; *Clerk*, W. Bradley.
- STAR—*Master*, W. Bean.
- SULPHUR, 8, Surv. Ves.—*Capt.* F. W. Beechey; *Lieuts.* G. Purvis, R. Collinson, G. Dashwood; *Surgeon*, A. Sinclair, M.D.; *Purser*, J. Hulse; *Mates*, A. S. Austen, C. M'D. Speck; *Mids.* D. Gordon, G. H. Richards, A. Jones, F. G. Simkin, F. H. P. Bayley, J. Curtis; *Assist. Surg.* R. B. Mend; *Vol. 1st Class*, F. W. Innes.
- TYNE, 28—*Lieut.* C. A. Golland.
- WANDERER, 16—*Lieut.* F. W. Austen.

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TUNNEL.—The Tunnel under the back-water at Weymouth is now completed. It was undertaken twelve months ago. The work was commenced by sinking a shaft, through gravel and clay, of fourteen-inch brickwork, laid in best Roman cement, to the depth of fifty feet; it then strikes off horizontally a distance of 450 feet, with a gentle rise to the other end; and is formed of an ellipse shape, seven feet high and four and a half feet in width. The other shaft rises from the end; about forty feet. It is quite dry and light. A main gas-pipe is laid through it, and answers completely. The depth of water over it is thirteen feet, high tides; seven feet, low tide, in the centre part or bed of the river. This is the first complete tunnel under the bed of any navigable river in the kingdom.—*Hull Paper*.

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CAST IRON.—Sea-water, by some unexplained process, so alters the nature of cast iron, that its cohesion appears to be quite destroyed. Cannon which have been fished up, after lying long in the sea, have been found converted, through their substance, into something resembling plumbago, and admitting of being cut with a knife.—*Mining Journal*.

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STEAM NAVIGATION.—The engines employed in steam navigation are to the extent of 11,050 horse-power, varying in size of cylinder from 33 inches to 55 inches; the tonnage being equal to 26,880 tons, or about 2 3-7th tons to each horse-power.



## FALMOUTH, 20TH OCTOBER.

LISBON—Sails every Tuesday.

Packet.	Sailed.	Due.
ESPOIR .....	4 Oct.	1 Nov.
SCORPION .....	27 Sept.	25 Oct.
STAMMER .....	11 Oct.	8 Nov.

[A Mail for Falmouth leaves Lisbon every Sunday.]

MEDITERRANEAN—51 days; sails 1st of every Month.—Route—Gibraltar, Malta, Greece, Corfu, Egypt, and India, and thence returns in the same rotation.

TABSTARUS .....	3 Oct.	25 Nov.
AFRICAN, st. v. ....	3 Sept.	26 Oct.

NORTH AMERICA—9 weeks: sails 1st Wednesday every Month.—Route—To Halifax and back to Falmouth.—[This Packet takes the mail for the United States of America, which is forwarded from Halifax to Boston.]

REWARD .....	5 Sept.	7 Oct.
SEAGULL .....	10 Oct.	12 Dec.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 1st of every Month.—Takes La Guayra Mail.

NIGHTINGALE .....	3 Aug.	26 Oct.
LYRA .....	3 Sept.	26 Nov.
PILOVER .....	3 Oct.	26 Dec.

MEXICO and HAVANA—20 weeks. Sails 15th of every Month.—Route—Crooked Island, HAVANA, VERA CRUZ, Tampico, Vera Cruz, Havana, Falmouth.

Packet.	Sailed.	Due.
REINDEER .....	17 June	21 October.
PIGEON .....	17 July	20 Nov.
CAMDEN .....	17 Aug.	21 Dec.
SHELDRAKE .....	17 Sept.	21 Jan.
BRISERIS .....	17 Oct.	20 Feb.

JAMAICA, LEEWARD ISLANDS, and HAYTI—12 weeks: sails 15th of every Month.—Takes Carthage Mail.

MUTINE .....	17 Aug.	9 Novem.
TYRIAN .....	17 Sept.	10 Decem.
PANDORA .....	17 Oct.	9 Jan.

MADEIRA, BRAZILS, and BUENOS AYRES—20 weeks: sails 1st Tuesday every Month.—Route—January to August inclusive; to Madeira, Tenerife, Rio de Janeiro, Bahia, Pernambuco, and Falmouth.—September to December inclusive: to Madeira, Tenerife, Pernambuco, Bahia, Rio de Janeiro, and Falmouth.

OPOSSUM .....	5 June	23 Oct.
SWALLOW .....	10 July	27 Nov.
ECLIPSE .....	9 Aug.	27 Decem.
LAPWING .....	4 Sept.	22 Jan.
SKYLARK .....	10 Oct.	27 Feb.

Persons desirous of proceeding as passengers in any of the Falmouth Packets may secure berths, and obtain every information, at the Foreign Newspaper Office, 30, St. Martin's-le-Grand.

## IN PORT.

FIREFLY—25th Sept.	LORD MELVILLE—15th Sept.	STAR—10th Oct.
GOLDFINCH—15 Sept.	NAUTILUS—4th Oct.	

## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 445.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
205 Agenora	Fitzsimons	Leghorn	London	C. Cornwall	11 Oct.	All lost.
206 Bellissima		Newcastle	Schedam	Saints.	30 Sept.	Crew saved.
207 Christopher	Robson	Weymouth	Bridport	Off Goree.	30 Sept.	Abandoned.
208 Eliza	Pover	Newcastle	Yarmouth	C. Devonsh.	25 Sept.	Crew saved.
209 Fame		Hull	Davis' Str.	At Sea	Sept.	Four of crew saved.
210 Isabella*	Carill	Dundalk	Ribble	In Ice	18 May	Crew saved.
211 John		Tenby	N. Yarmth.	Bristol Chan.	Oct.	
212 John		Padstow	Quebec	Burbo Bay	11 Sept.	Crew saved.
213 Lark	Carter	Hull	Davis' Str.	E. Channel	9 Oct.	Crew saved.
214 Latona	Lee	Grangemth	Off Abb's Il.	At Sea	Sept.	Abandoned.
215 Lee	Berry	Plymouth	At Sea	Off Dart Hd.	4 July	Crew saved.
216 Lero		Newfoundl.	At Sea	Off Abb's Il.	5 Oct.	Foundered, cr. sd.
217 Lyra	of St. John's	Newport	At Sea	At Sea	6 Sept.	Abandoned.
218 Maria	Griffiths	Newport	At Sea	Cornwall	Sept.	Abandoned.
219 Neptune		Newport	Bridgwater	E. Channel	Oct.	Seven lost.
220 Regulator		Newhaven			22 Sept.	Crew saved.
221 Zephyr				C. Sussex	23 Sept.	Crew saved.

\* The Isabella whaler, the ship in which Sir John Ross and his companions were saved and brought to this country, was wrecked in the ice, in June last, in the Greenland fisheries. The Lee shared the same fate in the following month.



**MONUMENT OF SIR RICHARD KEATS.**—His Majesty has caused to be erected in the Royal Chapel, Greenwich, a beautiful monument, the work of Chantrey, to the memory of the late Sir R. Keats, which has now been exposed to public view for the first time. It consists of an animated bust of the deceased Admiral in pure white marble, resting on an elegantly formed pedestal of the same material, which bears the following simple and affecting inscription:—

“This marble is erected by King William the Fourth, to the memory of Admiral Sir Richard Goodwin Keats, G.C.B., Governor of this Hospital, who was his Majesty's shipmate and watchmate on board the Prince George of 110 guns; in which that Admiral served as Lieutenant, and the King as Midshipman, from June, 1779, to November, 1781. In commemorating this early period of their respective careers, the King desires also to record his esteem for the exemplary character of a friend, and his grateful sense of the valuable services rendered to his country by a highly distinguished and gallant officer. Died April 5th, 1834, aged 77 years.”

Nothing can possibly more strongly manifest the kindly and warm-hearted affection, which his Majesty is universally acknowledged to possess, than this touching tribute to the memory of a deceased shipmate and friend.

### **Births.**

On the 24th Sept., in France, the lady of Capt. W. H. Jarvis, R. N., of a daughter.

### **Marriages.**

At Rathmullen, Ireland, Lieutenant G. Vaughan Hart, R. N., son of Lieut.-General Hart, of Kilderry, Donegal, to Jane, daughter of the Rev. G. V. Hart, rector of Castlebar.

At Clifton, Commander Matson, R. N., to Miss Yeo, late of Pyland Hall, Somersetshire.

At East Teignmouth, Lieutenant J. Pyke, R. N., to Emilia Bowen, youngest daughter of the late Rev. C. Stafford.

At Barnstaple, Lieut. G. Mortimer, R. N., to Miss Elizabeth Prideau James, of Sidmouth, eldest daughter of the late John James, esq.

### **Deaths.**

A few days since, at his seat, Montgomeryshire, Sir Charles Tyler, G.C.B. Admiral of the White, aged 71.

A few days since, Thomas Eyles, Esq., Vice-Admiral of the White.

Suddenly, of apoplexy, J. Wills, esq. Purser, R. N., highly respected by all who knew him. He was acting Purser with Lord Nelson, in the ever-memorable action of 2d July, 1797.

In July last, on board the Brisk, on the coast of Africa, Mr. T. S. Taylor, late Assistant Surgeon of that vessel.

At Edinburgh, on the 2d Oct., Commander Thomas Cowan, (1827.)

At Dunse, Mr. John Thomson, Assistant-Surgeon, R. N., son of the Rev. John Thomson.

At Larne, Ireland, on the 22d Sept., Lieut. Charles Henry Marshall, R. N., (1813), Chief Officer of the Coast Guard Service in that district.

At the Royal Naval Hospital, Plymouth, Mr. George Dunn, late Master of H. M. S. Rodney.

At the Magdalen Islands, Lieutenant Philip Collins, R. N., (1827) on the Surveying Service.

At Dover, 8th Oct., Lieutenant John Bazely, (1824) aged 35, son of the late Vice-Admiral Bazely.

On the 6th Oct., Commander Henry Lynne, 1811.

At Port Royal, Jamaica, 24th August last, Lieut. Edward Grey, (1832) son of the Bishop of Hereford, and brother to the lady of Sir George Grey, bart., M. P.; aged 25.

On the coast of Africa, Lieut. Jeremiah Macnamara, (1815) commanding H. M. gun-brig Buzzard.

July 31st, at Port Royal, Jamaica, in the 19th year of his age, Edw. Watkin Bennet, Midshipman of H. M. S. Rainbow, commanded by his father, Captain T. Bennett.

On his voyage home, from S. America, for the recovery of his health, on board H. M. S. Conway, off Cape Horn, Mr. Alexander J. Fry, of H. M. S. Spartiate.

At Bath, on the 21st Sept., Lieutenant Henry Fournier, R. N. (1812,) aged 40.



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**SEPTEMBER, 1835.**

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	Quarter.		Strength.		A.M.	P.M.
								A.M.	P.M.	A.M.	P.M.		
1	Tu.	30.14	30.16	62	66	50	68	E.	E.	3	3	B.	Bc.
2	W.	30.23	30.21	58	68	46	68	E.	S.E.	3	3	B.	B.
3	Th.	30.09	30.01	61	69	48	70	S.E.	E.	2	3	B.	B.
4	F.	29.82	29.82	67	74	55	75	S.W.	S.W.	3	4	Or (1)	Bcr 4)
5	S.	29.86	29.94	64	69	59	72	N.W.	N.W.	5	5	Or (1)	O.
6	Su.	30.15	30.11	66	74	56	75	S.E.	S.E.	4	3	Bc.	Bc.
7	M.	30.07	30.03	64	70	54	73	E.	E.	2	3	O.	Bc.
8	Tu.	29.79	29.65	62	63	51	69	S.	S.	3	3	O.	Ogr (3) (4)
9	W.	29.71	29.70	54	57	47	60	W.	W.	6	7	Qbcp (2)	Qbcp (3)
10	Th.	29.38	29.34	56	61	47	61	S.W.	S.W.	7	8	Qp (2)	Bc.
11	F.	29.47	29.57	54	56	47	57	N.W.	S.W.	7	5	Or (1)	Od (3)
12	S.	29.29	29.33	53	59	48	60	W.	W.	3	3	Or (2)	Bcp (3)
13	Su.	29.52	29.66	53	61	43	64	W.	W.	3	4	Bcm.	Bcp (3)
14	M.	29.84	29.90	56	68	44	69	S.	S.W.	2	2	O.	Bc.
15	Tu.	29.88	29.86	62	66	58	67	S.	S.	4	4	O.	Od (3) r 4)
16	W.	29.80	29.76	56	64	47	65	S.W.	S.W.	2	2	Bcm.	Bc.
17	Th.	29.74	29.74	60	58	48	62	S.	S.W.	3	3	Bcp (2)	B.
18	F.	29.80	29.78	60	62	42	65	S.W.	S.	4	5	B.	Or (3) (4)
19	S.	29.56	29.64	61	65	54	67	S.W.	S.W.	6	5	Or (1)	Bc.
20	Su.	29.64	29.66	62	66	56	67	S.W.	S.W.	5	6	Or (1) (2)	Bcq.
21	M.	29.90	29.82	57	55	54	60	S.E.	E.	3	3	Or (2)	Or (3) (4)
22	Tu.	29.57	29.51	60	69	53	70	S.	S.	4	5	Bc.	Bcp (4)
23	W.	29.68	29.70	63	65	54	66	S.	S.	6	7	Oqp (1)	Bcq.
24	Th.	29.88	29.90	60	63	54	65	S.W.	S.	2	5	Op (1)	Oq.
25	F.	29.97	29.95	53	61	46	63	S.W.	S.W.	1	1	Bcm.	Bcm.
26	S.	29.70	29.62	52	60	45	61	S.	S.	2	2	O.	Or (4)
27	Su.	29.56	29.50	53	59	48	60	N.W.	N.W.	2	2	Bcm.	Bcp (4)
28	M.	29.33	29.53	49	57	42	58	S.W.	S.W.	5	5	Qbcp (2)	Bc.
29	Tu.	29.60	29.64	52	60	41	61	S.	S.	6	7	Oq.	Qo.
30	W.	29.28	29.20	54	63	45	64	S.E.	S.	6	8	Qo.	Qo.

SEPTEMBER—Mean height of Barometer=29.742 inches; Mean Temperature=57.4 degrees;  
Depth of Rain fallen=3.80 inches.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hail.
6 Strong Breeze.	l Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	p Passing temporary showers.
10 Whole Gale.	q Squally.
11 Storm.	r Rain—continued rain.
12 Hurricane.	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	. Under any letter indicates an extraordinary degree.

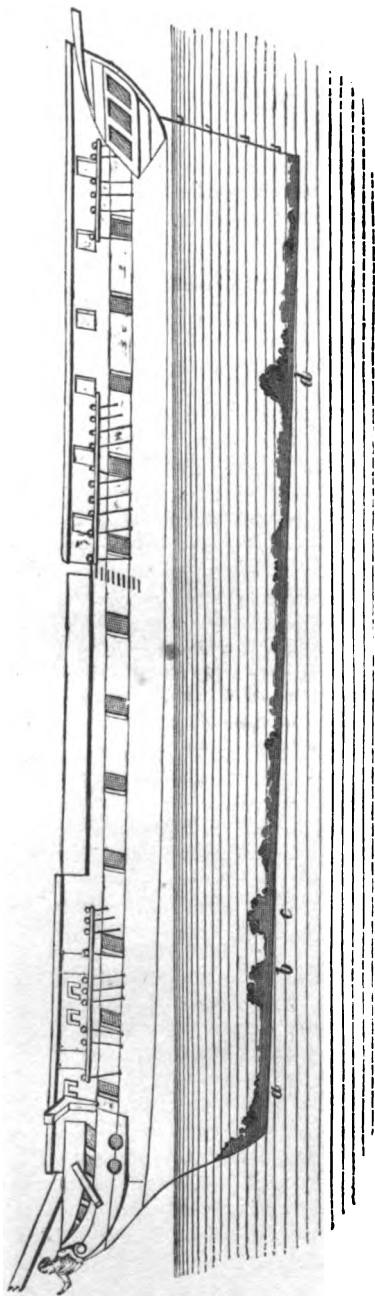
*The Figures in the Weather Column.—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( and ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.*

LONDON: FISHER, SON, AND CO., PRINTERS, NEWGATE-STREET.

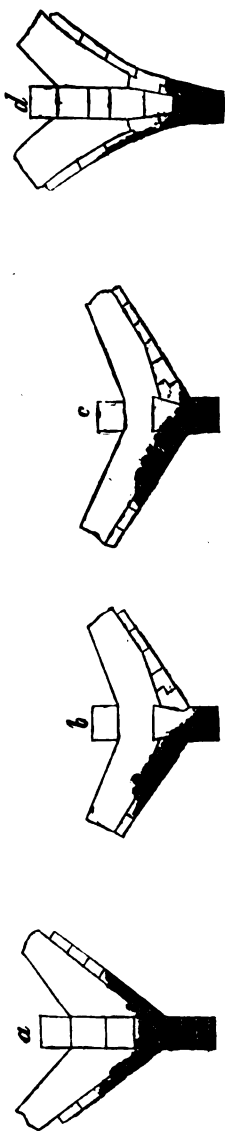








*H. M. S. Pique in dock at Portsmouth after being on shore near the Strait of Belle Isle.*



*Enlarged Sections of floor timbers, dead-wood, keels, &c. referred to by the letters.*

*The shaded parts are those which were ground off by the rocks.*

22d Sept. 1835.



## ORIGINAL PAPERS.

DECEMBER, 1835.

REMARKS ON THE BAY AND RIVER ORONTES.—*By Mr. David Hope Stenhouse, Mate, H.M.S. Caledonia.*

Compass Bearings.

ON Saturday, the 4th of April, we ran in and anchored in the bay of the Orontes, about two miles to the north of the river, but next day shifted our berth, anchoring off the mouth of the river, which I think the best part of the bay.

This bay is of no great depth, and in shape is very different from what the charts represent it; the bottom of the bay is a straight line of sandy beach, ten miles in length, running a little more in a southerly direction than the coast from Cape Khynseer, forming an elbow with it at the north end; at the south end, which is the deepest part of the bay, is another elbow, the coast running away from it in a south-westerly direction, the line of beach runs N. by W. & S. by E.

Except off this beach, and in a bay inside Rasel Baseit, (the south extremity of the bay) the coast is everywhere steep close to.

The soundings off the river are, from three (about two cables' lengths out) 5, 7, 8, 14, and 18 fathoms; this lasts about a mile from the beach, after which it runs off abruptly to a great depth, no bottom being found with a hundred fathoms of line; at a very short distance further out, along the whole extent of beach the soundings are the same, the above depths running in regular lines in the direction of the shore.

The anchorage is quite exposed to the westward, from which quarters it blows greater part of the year, and in winter with great violence, as we were informed, and which is well proved by the height at which the water-mark has been left. There is the hull of a fine\* Turkish brig, now stranded, which forms part of a fleet of transports, which were caught in one of these gales two winters ago; these gales bring in a heavy swell, which, from the shelf-like nature of the bottom is rendered tumbling and uneasy.

I would prefer lying off the river, as the current from it would lessen the strain on the cables, and as its effect does not extend more than six inches below the surface (three quarters of a mile off) the sea by it is not rendered more turbulent there, than at any other part of the coast; but, as it would also take a ship over her anchors when the wind was not in, it would be better to moor.

There is a bar at the mouth of the river, the greatest depth on which is four feet, (the general depth, however, is not more than three feet,) and on it a surf breaks, through which it is often

\* Egyptian, in the service of Ibrahim Pacha,



impossible to pass. The Columbine's boats were swamped several times in the attempt; the water from the river is good and fit for use.

The river empties itself by *one mouth*, less than half way from the south end of the beach, two miles to the southward of a mausoleum, which will always be a good mark, as it is constantly kept white-washed by the inhabitants.

There are several villages in the fertile valley of the Orontes, the principal of which is Swedea; from these, stock may be had; but we had difficulty in procuring bullocks, and they were of the smallest size, and hard wrought.

The making of this anchorage would never be a matter of any difficulty, from the high and remarkable land in its immediate neighbourhood; Mt. Cassius (Gibel Okrab,) on the south side rises to the height of 5620 feet, and terminating in a sharp peak, can never be mistaken; towards the top it is grey, and bare of trees, from which it derives its name, Okrab, meaning in Arabic "bald." Mt. Khynseer is also remarkable land; the sketch (a very correct one,) taken by Mr. Fitz James, Midship. belonging to the Euphrates expedition, represents these two mountains (between which is the bay) as seen from about five-and-twenty miles to the westward.

From the Orontes we had occasion to go to Latakea, which has a small bay, formed by two low points about three miles and a half apart, and in depth is better than a mile and a half; this also is exposed to the westward; the ground, however, is good (clayey sand) the soundings regular, and I am convinced it is clean all over; the soundings are from 12 and 11 fathoms between the points, gradually shoaling to 5 fathoms about 300 yards from the bottom of the bay; towards either point the soundings are not so deep, but in both cases lessen gradually.

The country round Latakia is luxuriant, and I think supplies of all kinds might be had: there is, however, no convenient place to water; the only way by which I think that necessary could be procured, is, by rolling it in casks from a fountain, at the Marina in the port, which is capable of holding, and giving good shelter to, about eight or nine small vessels, not drawing more than eleven or twelve feet,—it has four fathoms at the entrance, but on one side, on which stands an old castle, there are some large blocks, which have fallen from that building; the beach is sandy nearly all round, and convenient for hauling the sein.

If approaching Latakia, and night should come on, a very good look-out ought to be kept, as the points which form the bay are low, and being backed by high ground their existence is concealed until within a short distance from them.

The coast between Rasel Baseit and Latakia is well marked,—



the point Rasel Baseit is low; more than half way to Latakia is a long white cliff, which shews well; a little to the northward of this is a high bluff, of a dark red colour; about a mile to the southward of Rasel Baseit is a remarkable table mount; and a little to the southward of this, again, is another of a conical shape; neither of these are very high, but from rising immediately from the sea are remarkable, (they are shewn, though imperfectly, in the sketch,) the last mentioned is the higher of the two.

There is a bay between the white cliffs and the north point of the bay of Latakia, but the water is deep. I sounded between the points, having a twenty-fathom line; with this I had no bottom, and from the dark colour of the water I should think it to be of a much greater depth.

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#### ON ENTERING THE DARDANELLES FROM THE ARCHIPELAGO.

[The following observation by Captain G. Martin, C. B., commanding H. M. S. Volage, in the Mediterranean, on entering the Dardanelles, with a foul wind for that channel, is well worthy the attention of our merchant commanders.]

It is an opinion pretty generally entertained, that ships entering the Dardanelles must necessarily wait for a fair wind; and under this impression, numberless merchant vessels are frequently detained in Basika bay, and in the neighbourhood of the outer castles. This opinion I am satisfied is incorrect, not only from my own observation, but from the information I have been able to collect from those who have had opportunities of visiting these straits, under various circumstances and at various seasons of the year. Ships, on leaving Basika bay and crossing the current, should endeavour to fetch, and, if possible, to weather, Imbras, which may be done with a moderate breeze (the wind against them) without any difficulty; they will then almost invariably find the wind coming down between Imbras and the main, or from the north-west, and, on approaching the main land, sufficiently favourable to enable them to fetch into the eddy on the Asiatic side, when they can easily work up to the anchorage of the White Cliffs. They will be then ready to take advantage of any change or slant of wind, which will enable them to pass the Dardanelles, or the Narrows, between the old castles of Europe and Asia; this effected, they will then keep the Asiatic shore on board, where there is a remarkably strong eddy; and should the wind not prove favourable for passing Point Nagara, they may anchor off the kiosk. I am satisfied that much time is lost from the impression that great difficulties exist in this passage, and consequently many are deterred from making an attempt, the result of which might be attended with considerable saving of both time and expense, objects of no small importance to mercantile men.



## NOTES ON THE ISLAND OF ASCENSION, PACIFIC.

The island of Ascension is in the North Pacific Ocean, very near the equator, being in  $6^{\circ} 48'$  N. lat. and  $158^{\circ} 25'$  E. long. It is fine lofty land, and may be seen eight leagues off; is sixty miles in circumference, and contains a capital harbour on the lee side of the island; abounds in fresh water; about 1000 natives, black colour, but very friendly; plenty of fowls, but no hogs; bread-fruit, yams, and taro in abundance.

There have never been more than two ships touch there. There are some volcanic appearances, but mostly coral; no quadrupeds of any kind; plenty of fish and turtle, and a considerable quantity of the hawk-bill variety, might be obtained. Of course, the climate is very hot generally, but it is an island *very well worth the attention of whalers*, and ships navigating to the north of New Holland. The language spoken is peculiar; none of the natives of Tahiti, acting as sailors on board our ship being able to converse with the natives of Ascension. They go quite naked, with the exception of the maro, usually worn in the tropical islands of the South Seas, round the waist.

*Sydney, Dec. 1833.*

HORTON JAMES.

## DANGERS IN THE ATLANTIC.

*To the Editor of the Nautical Magazine.*

Brig Rival, Liverpool, July 14, 1835.

SIR,—With respect to the shoal you mentioned as having been discovered by Lieut. Sainthill, I find, on looking over my journal and chart, that the voyage before last, on my passage home, on the 2nd of November, 1834, at noon, the Rival was in latitude  $42^{\circ} 30'$  N. longitude by chronometer  $41^{\circ} 40'$  W., the wind being south-easterly at 2 h. 30 m. P.M., the true course made was N.E. by N. nine miles, which gave  $42^{\circ} 37'$  N. longitude  $41^{\circ} 35'$  W. nearly; so that, should the shoal exist, it must be of small extent. I am quite satisfied of the correctness of my chronometer, as on the 27th of November I took sights, the Tuskar lighthouse bearing N.N.E. five or six miles, which gave the longitude  $6^{\circ} 12' 15''$  W. On crossing the parallel of Havergault's breakers and Daraith's Rock, in longitude about  $53^{\circ}$  W., I passed some plank floating, which appeared to have been some vessel's deck-load; it is probable a danger might exist hereabout.

J. BISCOE.

## SUPPOSED SHOAL IN THE ATLANTIC.

Wednesday, 18th, Astron. time, 1835.

" 1 P.M. 19th, nautic time, observed a sudden change in the colour of the water, from a beautiful light blue to a nasty pea-green; the



thermometer gave only  $57^{\circ}$ , and at noon was  $66^{\circ}$ , a fall of  $9^{\circ}$ ; past two o'clock, was  $58^{\circ}$ ; ten minutes to 3 o'clock, had  $60^{\circ}$ , then the same blue water as before.

"I should say, lat.  $39^{\circ} 13' 48''$  N. and long.  $46^{\circ} 19' 30''$  W., calculated up from noon, and having the distance between the moon and the star Regulus at 11 h. 52 m., also the distance between the moon and star Antares at 16 h. 30 m. on the morning of the 18th, and sights before and after noon for chronometer, which agreed with the lunars to  $45' 5''$ ; also, being fine steady weather, I consider the longitude may be depended upon; and at a quarter past 3 o'clock, thermometer rose to  $64^{\circ}$ , at half-past 3 to  $65\frac{1}{2}^{\circ}$ , and at 4,  $65\frac{1}{2}^{\circ}$ . As soon as I discovered the change of the water, I sent a hand up to the mast-head, but no signs of breakers could be discovered on the line between the light blue water and the dark green—could not be seen from the mast-head, to south or north; the changes of the colour were as perceptible as black is from white; ship running seven knots, with steering sails on both sides, and expecting it would not be long before I altered the water, or I would have shortened sail and tried for soundings. At any rate, something there decidedly is, and I think it is a large bank, and larger than may be imagined. Notwithstanding the loss of time it would have occasioned, I regret very much indeed I did not try for soundings.

JOSEPH CORNFORTH,

Master of the brig Harbinger, of Newcastle-upon-Tyne.

REMARKS BY CAPTAIN HENRY HART, of *H. M. S. Melville*, on board *H. M. S. Imogene*, made while running out from Zanzibar, through the southern passage. These remarks may be of service to a stranger, entering by that passage to the anchorage and to the shoals, or up to Isle Pass, beyond which a Pilot seldom comes.

Compass Bearings.

WE got under way from our anchorage off the Imaum's palace, which is to the northward of the town, at 8 A. M., it being half tide, when all the shoals may be seen. Our pilot was a native, with no further knowledge or guide than his eye. We steered to pass between French Island and the main: he took us too close over the spit of sand which runs out from French Island, as we had one cast only  $3\frac{1}{2}$ , and the next cast 6 fathoms; when over this, we hauled up a little, to avoid the shoal which runs out from the main land on the left, and then steered down for the shipping lying off the town, passing close to them, and steering S.W. by W. We then came to a dry sand-bank, which was visible from the ship before we were under way. This sand-bank forms the western side of a very narrow channel, which I call Imogene



channel, to distinguish it from the other called by Capt. Moresby Menai channel.

When we came very close to this bank (it bearing west) we saw from the deck the shoal forming the eastern side of the channel. We had the lead going, anchors ready, and the pilot conning the ship entirely by the eye, the master looking out on the fore-top-sail yard, who reported that the width of the passage was not above two or three times the length of the ship.

A point called Rocky Point has a white cliff very remarkable, and more conspicuous than the rock; it ought to be called White Cliff Point, and bore S. E. by S. when in the channel, the ship steering S. S. W. in 10 fathoms water.

When the western sand-bank bears N. W. it is on with Bawy Island, by which that island may be known.

The eastern shoal is on with Isle Pass, when that island bears S. E. by S., and White Cliff Point E. by S. the soundings 6 or 7 fathoms, steering S. S. W.  $\frac{1}{4}$  W.

Bluff Point is in one with the eastern shoal, when Bluff Point bears S. E. the White Cliff will then bear east, and also be in a line with part of the eastern shoal; the depth of water  $10\frac{1}{4}$  fathoms, and the point of the town of Zanzibar N. by E.  $\frac{1}{4}$  E.

When the north part of Isle Pass is in a line with the south part of Nut Island, White-cliff Point in going in from the southward will begin to show itself, bearing N. E.

The north point of Isle Pass and White Cliff Point are in one when the north point of Isle Pass bears N. E.  $\frac{1}{4}$  E. Walnut Island will then bear east, and be a point and a half open, with a high and remarkable clump of trees on Zanzibar, and the Island of Kawly bearing S. E.  $\frac{1}{4}$  E.

When the clump of trees bears N. E. by E.  $\frac{1}{4}$  E. you are in a line with the shoal marked 3 fathoms, Isle Pass will bear north, Walnut Island N. E.  $\frac{1}{4}$  N., and a small round island E. by S.

This shoal is well laid down;\* we saw it from the mast head, and from the deck; there did not appear to be above a fathom of water on it.

The south point of Zanzibar may be known by a ship coming from the southward when it bears N. N. W. 5 leagues by a high tope of trees, which appear separate and higher than the rest.

Kawly Island will be known when it bears north 10 or 12 miles by a white sandy point, and a little round island, which will then appear to be to the eastward of it. The south point of the island of Zanzibar bearing E. by N. and when Kawly Island bears N. E.  $\frac{1}{4}$  N. it may be known by the little round island appearing off its north point, by a small flat island to the northward of that, and about 5 times as long, the south point of Zanzibar bearing east.

\* See the Admiralty Chart, by W. F. W. Owen, R. N.



The pilots all go by the eye, and the shoals are all visible at half-tide, and I believe at all other times (certainly from the mast-head.)

The Imogene entered by the north passage, being in the N. E. monsoon, and could not obtain a pilot.

They reported at Zanzibar, that all their ships, large and small, went in and out of the southern passage, according to the seasons.

DIRECTIONS FOR THE PASSAGE BETWEEN ST. DOMINGO AND BEATA ISLAND. *By Mr. James Henderson, commanding H. M. S. V. Columbia.*

Compass Bearings.

FROM False Cape, steer about S. E. 15 miles, when the sudden change of water is distinctly seen, extending from the main to the island, better than two miles; keep in mid-channel, when you have little less than three fathoms, fine sandy bottom; proceed about six miles until abreast of Little Cape Mongo, when you darken and deepen your water, and feel the effects of the sea round Cape Mongo, which is of considerable height; then haul in by your chart, to catch the land-breeze; if night is coming on, the eye is the best guide, as all dangers are distinctly seen. Beata Island and the Friars are by no means low, and may be seen four or five leagues off.

LIGHTHOUSE OF BELLE-ÎLE, *Department of Morbihan.*

(Received from the French Government.)

NAVIGATORS are hereby informed, that from the 1st of January, 1836, the tower recently erected on the S.W. part of Belle-Île in lat.  $47^{\circ} 18' 40''$  and long.  $5^{\circ} 33' W.$  of Paris, ( $3^{\circ} 13' W.$  of Greenwich,) will be distinguished by a light varied by eclipses, which will be repeated every minute during the night.

The light will be 46 metres, (151 English feet) above the ground, and 84 metres (276 English feet) above the level of high water at equinoctial spring tides. In fine weather the flashes (the intensity of which will be equal to those of the light of Cordouan) may be seen at the distance of eight leagues, and the eclipses will not be total within the distance of four leagues.

This new light might be mistaken for that on the Plateau du Four, situated eight leagues to the eastward of Belle-Île, if attention were paid only to the intervals of time between the flashes: but it is to be remarked—

1. That the light of Belle-Île will be much more brilliant than that of the Four.

2. That it will present, between the flashes, a fixed light, which may be seen in ordinary weather at a distance of more than three



leagues, at which distance the eclipses of the Plateau du Four light will be total.

3. That the elevation of the light of Belle-Ile will exceed by 67 metres (220 English feet) that of the Plateau du Four; and, further, that, on approaching the former, the high land of the island may be distinguished at night.

Moreover, it is not to be supposed, that a vessel standing in from the sea could make the light of the Plateau du Four without having seen either that of the Isle d'Yeu, or that of the Pilier, or the one now advertised on Belle-Ile.

To these means of distinguishing this light will soon be added, a small fixed light on the Island of Hædic, which is  $9\frac{1}{2}$  nautical miles N.  $75^{\circ}$  W. from the Plateau du Four light, and which will be seen in fine weather at the same distance.

*Hydrographical Office, Admiralty, October 28th, 1835.*

THE ASCENT OF MOUNT HOREB. *From the Viaggi Di Pietro Della Valle.*

THE following morning, which we accounted the 25th of December, but which, by the computation of the Greeks, was ten days previous to the Nativity, guided by the monk's advice, not to expose myself too soon to greater fatigue, I spent my time in visiting the monastery.\* This is of a considerable extent, closely built with cells, and completely shut in by very high walls, in the manner of a castle. Within it a river passes, forming a well, which they account the same to which Moses brought his flocks to drink, when he herded them upon the neighbouring mountains. But why then, when the Hebrews under his guidance went wandering about these confines, should they suffer from thirst so dreadfully as to make it necessary to perform the miracle of bringing water from the rock? I imagine, that even if at that time there existed this very well of water now used in this monastery, that so slender a supply would not have been enough to satiate the thirst of such a multitude, and therefore would have been considered nothing. I saw, amongst many other things within the cells of the monastery, twenty-three chapels, besides nine or ten others, which there may be reckoned in the church where I attended service after dinner. The friars did not summon us to prayers by tolling bells, but with certain lances of wood and iron. These are very sonorous when beat with clubs, especially when they strike chords in a certain musical mode, as they are sometimes accustomed to do at Rome with the bells in the monastery of St. Catherine D'Funari on St. Stephen's day.

\* A monastery, containing the relics of St. Catherine, west a little of Mount Sinai.



I determined to ascend the mountains, but as there are two in one, Horeb and Sinai, which diverge, as they rise, from the same base, to form two separate lofty summits, I found to climb them both the same day was impracticable. I chose to go up Horeb, the least elevated of the two, at whose foot, to the east, the monastery lies in a deep valley, closely hemmed in by other mountains. I set off with my party along the plains and roads by which I came from Cairo to the monastery, conducted by a calloyer and some other monks. They then went away to another part beyond the mount, to wait for us in a convent with a church, belonging to them, called the Forty Fathers, where we were that night to take our lodging. This convent not being usually inhabited, the monks had to carry beds there, and such other things as were thought necessary for our night's accommodation. I ascended Horeb with my face to the west; and, viewing the summit, felt exceedingly surprised why to go thither and come back should be accounted the affair of a whole day, because to me in fact it did not seem so high, nor did I consider it larger than Santa Maria del Soccorso in Caprea. Most gross was my mistake, however, for the eminence I saw, so far from being the chief summit, was no more than simply one root of the mountain. The fact is, there are five or six hills, all pretty high, one upon the other, while from the foot of each none of the others can be seen, the lower ones concealing the higher until they are surmounted. Whoever, therefore, has seen the Mount of Horeb represented in the engravings of Belloni's, and other publications, as seen together with Sinai, the two summits, the monastery, and various other objects, cannot fail to laugh, and say the artist was either a dolt, or guided by the mere descriptions of others, without ever having seen himself the real object he presumed to paint; because not only the two mountains, but even Horeb singly cannot be painted in one view, therefore, adding as they do, the mountain and other trifling details to it, is perfectly ridiculous. I had a painter with me, and, had it been possible, I would have have had it sketched, but I saw in fact that such a thing was quite impracticable.

Neither discouraged by the height, which every hour appeared to become greater, nor by the way, which was difficult, and, in a word, sometimes scarcely discoverable, being favoured by the weather, I was resolved on going to the summit. When we had reached some height, I found, amongst the stones, a fountain of water not less grateful to the taste than pleasing to the eye; it was not of any antiquity: it is called the Shoemaker's Spring, because a person of that trade was the first in modern times who discovered it. A little higher up we found a chapel dedicated to the Virgin, built there, because they say our Lady appeared on that spot to certain monks who had assembled there to pray. I



found the entrance narrow, and closed by doors, which Belloni says are arches built of very small stones, that might easily be closed up with a wooden door.

When we had attained about one-third of the way up, we began to find snow, yet not much, because the weather was then fine, and none had fallen for a considerable time. I used it several times instead of water, and by way of drink; taking also, as I went along, some of the whitest pieces I could find, to eat with biscuit, which proved refreshing. At length we reached a certain plain, where we found four small churches, or chapels rather; one dedicated to St. George, and three opposite to that, leading from one to another. The first of these was dedicated to St. Marina, the second to St. Eliseo, and the third to St. Elia, behind the altar of which there is a small grotto, in which one person can stand, and there they say Elijah was concealed when he fled from Jezebel: in his retreat to this mountain, he fasted forty days. Higher up they show a stone, cut as it were in lines by a master, and in a somewhat depending position; and the idiots say it was cut by an angel who appeared to Elijah when he would have ascended to the summit, and that in this manner traversing his passage, he forbade him from proceeding higher; though of this circumstance I find no mention made in holy writ. We then ascended much higher, with no little fatigue, and then attained the highest summit, where the Almighty delivered the tables of the laws to Moses. There is in that place a stone, entering beneath which, it appears to cover and form a case as it were for all the members of a human body. Here, they say, Moses was sheltered when passing from the glory of God after seeing his hinder parts, from terror being unable to support the Divine aspect, he shrunk beneath the stone, which remained as if by a miracle, yielding to his falling and terrified body, conformably to the words of Holy Writ.—“*Ponam te in foramine petræ,*” &c.\*

Above this passage is built a small church, which is called *Agia Corfi*,† that is, holy summit, or ladder of heaven; and opposite these are, though placed there most unworthily, a few mosques for the use of Turks and Moors, who also hold the place in veneration, and go up there to offer homage most devoutly. After viewing every thing there, and gazing at the neighbouring summit of Mount Sinai, which was all over deeply covered now with snow, and evidently far higher than the ground on which I stood, we descended Horeb by the same track we mounted, till we reached the chapel of Elia, after which we went down the other side of the mountain, westward, to pass the night in the monastery of the Forty Fathers, which stands in a very deep and narrow valley between Sinai and Horeb.

\* Exodus, chap. xxxiii. ver. 22. *Ve Shemiteke be negert Hetzur.*

† *Corfi*, a corruption of *κορυφή—ἀγία κορυφή*.



By night we reached our destination, being assuredly more fatigued by this rapid descent than we had been in ascending. The monks asserted, if there should be a fall of snow, (which from the appearance of the evening they anticipated,) that the ascent to Sinai would be very difficult. In consequence of this, when I heard the wind and rain during the night, owing to the great anxiety I felt to accomplish the ascent, I found it impossible almost to close my eyes, far less to sleep: at last, when at a very early hour I left my bed, I saw with infinite concern that every object before me was covered with deep snow, and, what was worse, it not only still kept falling, but appeared as if there was an equal quantity still on its way from the sky to the earth. The monk, who thus far had acted as my conductor, now told me plainly that he would not ascend: as for those of my party, they declared, that high up the mountain we should find so great a depth of snow, that if we staid there, we should die, and become buried in it. One said, "The road is covered; therefore, not finding a passage, how shall we be able to advance? We shall be constrained to get into some hollow, and there shall be closed up by the snow." Others said, "Night will come, and we shall not have time to descend; or so large a quantity of snow will accumulate, that a descent will be impracticable; therefore we must stay up there to perish with hunger and cold." Others said, "The road being exceedingly steep, we shall slip down into some precipice, and break our necks as a reward for our rashness." My servant Tomasetto was in truth the only person who was free from fear, and accompanied me willingly. For my own part, disdaining to have my intentions frustrated by a little snow, I said if I could find an Arab who would come and show me the way, that I would set off with him, not caring for the priests; and that such as were afraid to accompany me were welcome, if they chose, to stay behind.

Perceiving me thus resolute, not only all my own party were disposed to follow me, but also a monk named Manase, declared that he would also join us: he was young, brisk, vigorous, and thought precisely as I did about the matter. I took, therefore, two Arabs, who carried our eatables, and some staves, with which to make a path if necessary, because we had not with us any iron tools. Attended then, by these, the monk, and some other people, I departed, leaving Lorenzo, who was still a convalescent, at the monastery, in order that he should prepare a supper for us when we returned at night.

In this manner, then, I started, gathering about me my tunic, (which I always wore in holy places), and taking in my hand, like all the rest, a small staff, which was of the tree on which the rod of Moses grew, I boldly followed the monk Manase, who, before us all, ran along the mountain nimble as a fawn. The difficulties



of the first acclivities were as nothing, because we only had to encounter a little water, but the higher we went the worse we found things; for by degrees we got amongst the snow, and then in the deep parts, in which we sank knee-deep, and sometimes to the middle of the thigh; then we got to the thickest of it, not only having to contend with what was on the ground, but that of the sky, which, by a strong bleak wind, was drifted in our faces with such violence, that we could scarcely force our way along. We next came to the frozen places where the paths are steep, or rather I should say, the rocks, for paths they cannot be considered. To get up these, even when there is no snow, and the weather is fine, it is necessary, for the most part, to go up crawling on the hands and knees; this made our mode of climbing, under circumstances so unfavourable, appear to some an attempt not only rash but desperate.

My dragoman (or interpreter as we should call him) made me ready to die with laughter. Terror was forcibly depicted on his countenance; he gave himself up quite for lost, and began invoking curses on the monk who was the cause of his distress, leading him, as he said, to absolute perdition. He then began to revile himself, saying he was a brainless booby, or he never would have come with us. After all these execrations, things took another turn, he got into a pious fit, implored protection from above, called to mind all his sins, making a vow not to eat henceforth any meat upon a Monday, and other things of this kind, which I considered singularly droll and entertaining. The painter said little, because he wished to be supposed a man of nerve, and he had heard me say it was a shame for us to lose our courage. However, sometimes, when unable to contain himself, he muttered a few words significant of discontent, albeit only in an under voice. Tomasetto held his peace altogether, and only thought of getting on: to say the truth, so far as I could judge from looks, he was not frightened. As for the monk, he was decidedly the bravest of the party: he inspired us all with courage, and said, while invoking the Virgin and St. Catherine, that there was nothing to alarm us. We had from time to time some dangerous falls, where the snow sinking under us, had it brought us in contact with the rude rocks, would have bruised our limbs; there were hard and frozen places, too, from whence, if we had slipped, we must have rolled the Lord knows where.

Manase being well acquainted with the mountains, and walking with far more security than I could, taking my hand, conducted me thus safely to the very top; and in descending, likewise, his assistance I found equally essential. The most difficult place we had to pass was the last part of the summit, where the steepness was such, that sometimes we were forced to use a rope, by which to drag each other up from one stone to another. The worst



part of the business was, that the places where we had to lodge our feet were very small, and so frozen, that, had we fallen, nought could have saved us, and we should have had to say good-night to this fair world, with all its charming prospects and delightful mountains.

But I have said enough about our miseries, spite of all difficulties we proceeded, and attained, thank Heaven! the summit by mid-day; time enough to say our prayers in the little chapel, which crowns the highest pinnacle of Sinai. Angels carried up the body of St. Catherine there, and remained upon the spot as guardians over it. The stone, in the exact place where she lay, swelled, as they say, miraculously, and assumed the figure of a body, precisely in the part where she reposed. There are also more than three marks about it, which the devout say, were those of the three angels, one on each side her head, and one at her feet. Now, all this appears in the veins of the mountain naturally, as is known, and was not sculptured, that would not have been possible, for with my steel hammer I could not, without great difficulty, break a portion off from it.

All the stone of Mount Sinai contains certain black veins of an arborescent form, as you perhaps have seen in Italy, upon those pieces brought there sometimes by the Greek calloyers. When we had said our prayers and taken a little refreshment, not to lose time, lest on the way the night should overtake us, we commenced our descent. In getting down the summit we encountered much more danger and difficulty than we found in going up, inso-much that frequently we fell; once, in particular, I tumbled souse into a ditch, where I laid, having my back in the water, with my feet up in the air, and that upon the very margin of a precipice. Notwithstanding such pleasant contingencies, it was necessary to exert ourselves so as not to be detained upon the mountain: what I had predicted proved correct, for I said we need not be uneasy as to finding a way down, since all we should require would be to pass by the route along which we had ascended. It is said that from the highest part of Sinai, not only the Red Sea, but even the Mediterranean also, can be seen distinctly; though we saw nothing of the kind, for clouds and snow in fact would not allow us to distinguish any object half an ell's distance from our noses.

When we had descended the first peak, we found much better walking, and got into the foot-tracks we made coming, for they were not there quite obliterated by the recent fall of snow. The places where the most was heaped up being soft, we slid feet foremost down the slopes; this helped us on surprisingly, as we advanced ten ells at a time without stirring a foot: the worst that could befall us was to sink down into this, as we right often did, without however caring for the matter; we could not all sink in at the same time, and as there were plenty of us to help each other



out, there was no fear of being left interred alive in these white sepulchres. This method of descending, then, I should have found not less agreeable than expeditious, had it not turned out so destructive to my shoes; one came off, nor had I any other way of making it stay on than that of dragging it along after me, which was extremely inconvenient. To go without a shoe over such rough stony places, was, however, not to be attempted. By the time I got to the lower mountains, where no longer we met snow, I was so shockingly annoyed, that if I had not been assisted by the helping hand of my good friend, the monk Manase, I never should have reached our place of destination; but, by his guidance and support, I managed to get safely down a little before night. When near enough, we hailed the convent, requesting they would have some good large fires ready against our arrival. Before these we stripped speedily; and as our clothes were thoroughly soaked through, we put on dry ones. For my part, I went off at once to bed, and took my supper there with no small gusto: though, previously to that, the monk made me drink a porringer of hot water, sweetened with sugar, which he assured me was excellent to keep off cold-catching: to prove his confidence, moreover, in the remedy, he swallowed a good dose of it himself, and gave another to my man Tomasetto. Now, in justice to the monk, I must confess that I escaped a rheum, despite the vast fatigue I had the previous day, and all our long exposure both to wet and cold.

Next morning, by the road of the valley and plain, we returned to the great monastery; and though we had asses, I chose to go on foot. I saw by the way of the valley, between Horeb and Sinai, but at the foot of the former, a natural stone in that place, and detached from the others of the mountain, like a large pedestal, which they say is that from which, when struck by the rod of Moses, water streamed forth copiously to slake the thirst of the fainting and exhausted Hebrews. Belonio mentions his having seen this, and he has described it; but I doubt his having well observed it, because he speaks of a certain stream which now runs near it, but has nothing to do with the rock; therefore I doubt if this one they show ought to be believed that of the miracle, or some other one higher up in the mountain, from whence the streamlet had its origin; for in the rock held for that of Moses, he makes no mention whatever of certain marks which one perceives, having the appearance of scars in a body, which they say were the mouths from whence the water gushed out at the time that Moses smote it to perform the miracle. Now this in truth deserves consideration, for on this stone these are seen, on three parts, as in a line one above the other, that is, on the front looking to Mount Sinai, behind towards Horeb, and upward to the sky. Now, from this, from what regards the place, and what is said in Scripture, I, to



own the truth, have many doubts if this is the real stone of Moses ; however, to sum the matter up in a few words, I neither absolutely can deny or yet affirm the matter : I have not time now to discuss my motives for this uncertainty, as I should thus be led into a long digression ; but I feel disposed on some better occasion to enter more at large on the discussion of this subject.

After leaving the valley, I saw in a wider plain, but still among mountains, the place and ditch, or rather the hollow among stones, where the golden calf was cast, and where it was worshipped ; the mountain where Aaron sacrificed to the passover, and where Moses prayed with his hand stretched out while the Jews fought with the Amalekites ; and from thence turning south, I returned to the monastery by a very narrow vale, which was the same we passed when we arrived from Cairo. But first they shewed me in the same place, another stone, not much raised above the ground, also at the foot of Horeb, of which mountain it is a natural piece, on the rude unpolished back of which there are engraved certain large characters, now unknown. The monks said the tradition amongst them was, that they were written by the prophet Jeremiah, and that no one had ever been able to interpret them, but that they believed Jeremiah had left it as a memorial of the place where he had concealed the tabernacle, ark, and other things at the period of the transmigration.

Now, because this act of Jeremiah is said, in Scripture, to have happened, not in Horeb, but the confines of Moab, towards Jericho, in the mountain where Moses saw the inheritance promised by God, and then died, I reposed no confidence in what the monks related, considered their tradition apocryphal, and consequently took no copy of these characters. However, subsequently, I knew, and saw myself, that St. Epiphanius, a grave and ancient author, wrote almost the same things these monks affirmed, namely, that Jeremiah wrote, in unknown characters, the name of God upon a stone with his finger, which, by a miracle, remained impressed there, and also that he sealed the stone with his finger : also that these impressions may be certain holes, which in most places they see above the letters, deeper than them, and exactly about the size and depth of the human finger : but, however, as on one side, St. Epiphanius says, conformably with Scripture, that this happened near the burial-place of Moses in the mountain ; and, on the other hand, that this stone, written upon and sealed by Jeremiah, stood in the desert where the ark was first constructed, namely, where the monks shew it now, precisely between Sinai and Horeb ; that places are designated several days' journey distant from each other, while, as far as I can recollect, there is no mention made in the Bible that Jeremiah went to Sinai : this makes the account confused and contradictory ; still, be the characters upon the



stone whatever they may, I very much regret not having copied them, as also my not having discovered in those deserts certain other very antique characters, which are, I understand, engraved on other stones in divers places: these must have been placed there by the Hebrews, when they wandered up and down about the wilderness: according to the accounts given to me by men who saw them, they consist of characters not known or understood by any one at present.

We arrived to repose at the monastery about dinner-time. In the evening at church, where I went, the friars after service shewed to us the body of St. Catherine. The marble case in which the pieces are preserved being opened, we adored the holy relics, touching them with our rings and chaplets, which they make here for the devout who come upon this pilgrimage. I purchased a large quantity of these by way of presents for my friends, as well of this country as in Italy. I have upwards of five hundred made of sea-horse bone for ordinary people, and a good quantity of gold and silver for those of greater consequence. On all the rings I have had engraved the names of the persons for whom I design them, to witness for me that even in a far-off country I have still kept them constantly in mind. We many times kissed the holy head, and likewise the left hand, which is most beautiful, with all the fingers, flesh, and even nails. At parting I left suspended my votive tablet, made of silver, with fine relievos and intaglios, having on it the following Latin inscription:—

Sacro Monte  
Divæque Catherinæ sepulcro  
cui voverat aditis.  
Petrus De Valle  
Patricius Romanus  
Itineris et pietatis juxta  
Monumentum hoc posuit.

“Peter Della Valle, a Roman Patrician, has consecrated this Tablet to the Sacred Mountain and the Sepulchre of St. Catherine, in memorial of his piety and of his pilgrimage to these places.”

I had much satisfaction in remarking in what veneration the monks held this sacred body, and with what decorum they shew it, singing hymns with many prostrations, devout acts, and beautiful ceremonies, such as are used in the Greek church, but these I think it needless to describe.

*Viaggi Di Pietro, Della Valle. Vol. I. p. 286.*

G. E. R.



## THE PRINCIPLE OF MARINE INSURANCE.

*To the Editor of the Nautical Magazine.*

Kirkcaldy, 8th September, 1835.

SIR,—I have frequently been asked to define the principle of sea insurance. If you will favour me with space, I will endeavour to do so by analogy, and then make the application. Let us then suppose an innkeeper about to give an entertainment, and that he requires to borrow a dozen tumblers for the accommodation of his guests. On applying to borrow these, he finds he can get them only on the conditions that he is to pay for the use of them, and for any that are broke, and that the price of them is tenpence each. Suppose that he agrees to borrow on these conditions, and that an individual, whom we shall call an underwriter, comes forward, and offers to insure the whole of them, and pay for any that may be broke for a penny apiece, or to insure the twelve for a shilling. Let us suppose that the innkeeper agrees to this, and pays the shilling, to insure them accordingly. Now, let us suppose that the entertainment has passed over without any of the tumblers being broken: in this case the underwriter has gained a shilling. Let us suppose one of the tumblers to be broken, for which he has to pay ten-pence, he has still gained two-pence. If two of the tumblers be broken, he has to pay twenty-pence, and in this case has lost eight-pence. Now, let us suppose a similar circumstance again to happen. He would say to the innkeeper, with a good grace, I lost money by the last transaction, and I must have two-pence apiece to insure the tumblers. The innkeeper agrees, we shall suppose, to pay two-pence apiece to get the tumblers insured. Now, let us suppose, as before, that the entertainment has passed over without breakage: in that case the underwriter has gained twenty-four-pence. If one tumbler be broken, he has gained fourteen-pence; if two are broken, he has still gained two-pence; and, if three are broken, he has lost six-pence. Let us suppose a third similar transaction; and he would again say to the underwriter—I have still lost money, and must have three-pence a piece to insure the tumblers, and that the innkeeper agrees to give it. If the entertainment passes without breakages, the underwriter has gained thirty-six-pence; if one tumbler be broken, he has gained twenty-six-pence; if two are broken, he has gained sixteen-pence; if three are broken, he has gained six-pence, after paying for the breakage; but if four are broken, he has lost four-pence: and so on. Let us take a view of this principle in figures, in order to see the working of it.

In the first case, at 1d. premium to insure, he receives 1s.; may gain 1s.; with one tumbler broke, he gains 2d.; with two broke, he loses 8d.



At 2d. premium, or 24d. to insure, he receives 2s., may gain 2s.; with one tumbler broke, he gains 14d.; with two broke, he gains 4d.; with three broke, he loses only 6d., instead of 8d. as above.

At 3d. premium, or 36d. to insure, he receives 3s., may gain 3s.; with one tumbler broke, he gains 26d.; with two broke, he gains 16d.; with three broke, he gains 6d.; and, with four broke, he loses only 4d., instead of 8d. or 6d. as above.

Again: At 4d. premium, or 48d. to insure, he receives 4s., may gain 4s.: with one tumbler broke, he gains 38d.; with two broke, he gains 28d.; with three broke, he gains 18d.; with four broke, he gains 8d.; and, with five broke, he loses only 2d., instead of 8d., 6d., or 4d., as above.

Thus, with increased risk of breakage, and increased premiums paid to cover it, the chances of gain to the underwriter are all greatly increased, and the chances of loss are all greatly diminished; and this will hold good with all intermediate sums, as well as with whole pennies, as above exemplified. INCREASED LOSS IS THEREFORE THE UNDERWRITER'S GREAT AIM.

In further illustration of this principle, it is for the interest of the manufacturers of glass, and the proprietors of the materials of which it is made, that the greater, instead of the lesser number, of tumblers should be broken. The proprietor of the tumblers being paid for the use of them, and the price in full of such as are broken, needs not care a straw whether they are broken or not. If we suppose an individual to represent the revenue, and to derive a duty or sum, not only from the materials of which the tumblers are made, but also on the contracts or agreements between the innkeeper and the underwriter, and that this duty on the contracts increases with the increased rate of premium, it is clear that his interest will be the same as the underwriter's, glass manufacturer's, or the proprietor's of the materials of which it is made; that is, the more breakage there is, and the higher the rate of insurance rises, the more his income will be increased. Now, if we suppose the tumblers to be full of porter, ale, wine, or any valuable liquid, and we suppose it also to be insured on the same terms as the tumblers, our case will be nearly complete. To cover all this breakage and waste, it is clear that the innkeeper must either charge the insurance to his guests, and thereby enhance the charge of the entertainment, or he must lose it; and, as he gives the entertainment for the sole purpose of making money, the latter is not likely to happen. Strong and safe tumblers would, no doubt, have enabled him to give the entertainment at a lower charge, and to have saved to his guests the expense of the insurance; but strong and safe tumblers would be against all the above interests.

It is easy to apply the above simile throughout, to the case of merchant shipping, and the commerce of the country. The innkeeper represents the merchant; the guests represent the public;



the tumblers represent the ships; the proprietor of the tumblers the ship-owner; the glass manufacturer the ship-builder, and all ships' tradesmen who supply ships with necessities of every description; the owner of the materials of which the tumblers are made represents the proprietors of the wood, and all materials of which vessels are made and equipped; and the underwriter, and the individual representing the revenue, correctly represent these interests, as conducted on the grand scale of the whole shipping and commerce of the country.

If the above principle then be correct, and I challenge it to be disproved, it shews clearly what a strong interest underwriters have, that sea risk should be increased to the utmost possible pitch, and explains the hostility and horror which they entertain against safe ships. I have no hesitation in saying, that we shall never have safe merchant-ships in Britain while they can prevent it; and the method they have hitherto fallen on to do so, and are still following out, has been far more effectual—(I mean that of putting proscriptive marks on strong ships, to take away all motive or inducement from a ship-owner to get such, and in being governed, in affixing this mark, solely by age; so that the strongest and safest vessel is branded with this bann of degradation, expressing want of safety, as soon as the most superficial, unsafe, and sloop-built vessel which can be made to float; than if they had made use of physical force to prevent safe ships being built)—because, in such case their motives would have been apparent, and would have been resisted, and their effects defeated. The fatal delusion on the mind of the public, lies in supposing that underwriters pay for all losses with their (the underwriters) own funds, without having previously drawn these funds out of the pockets of the public in the shape of premiums of insurance, although no proposition can be more clear than that underwriters must receive more money than they pay away, or they would become insolvent; and in supposing that it must be the underwriters' interest that safe, instead of unsafe, ships were got. An underwriter is neither more nor less than an agent between the merchant and ship-owner on the one hand, and the public on the other; and, if the above description of the principle which governs his trade be correct, he has the strongest possible interest in increasing shipwrecks, and the waste and destruction of merchandise to the utmost. It is not generally known to the public, that so lucrative was this business supposed to be, that two assurance companies agreed to pay to Government £300,000 each for a charter of monopoly to carry on this business as companies, and thereby to give a better security for payment of losses to the merchant and ship-owner, and to prohibit all others from underwriting as companies.

I have not said a word about the ease with which strong and safe merchant-vessels can be got, because I consider that case



practically proved. Nor have I taken any notice of the destruction of human life, with which the present system of conducting merchant-shipping is attended, because that is a point never thought about; and, so long as seamen, and such portion of the public as have occasion to embark, are content to be drowned without remonstrance, I do not see who has any right, or is called upon, to interfere in their behalf. The seamen, and such portion of the public, occasionally leave widows and orphans, it is true, but what would become of our overflowing charities, without objects to exercise it on? In such circumstances, our national charity would absolutely become effete for want of objects to receive its bounty. Fame, too, might lay aside her trumpet, and then who would sound the *eclat* of charity dinners to the utmost corners of the earth? Oh, most dire and melancholy conclusion to so splendid a drama!

I am, Mr. Editor, your most obedient servant,  
JAMES BALLINGALL.

## NAUTICAL STANZAS.

MEUM AND TUUM; *Or, the Poor Pig Can't be Saved.*

(From a "A Day at Sea.")

SIRS, you at school were doubtless taught, like me,  
*Tuum* from *meum* should distinguished be.  
All sound philosophers assert 'tis wrong  
To covet things which don't to us belong;  
But, by the world's experience, 'tis shown  
Men's instincts lead them to preserve their own:  
The *meum* loss, to bear they never learn,  
But hear the *tuum* one with unconcern!  
If this assertion to convince should fail,  
Sceptics, give ear to this heroic tale.

Pigs and the man I sing, who rear'd a batch,  
Pig-breeding Hampshire ne'er was known to match:  
They gorg'd bergou; were cramm'd with purser's peas;  
And, in a ship, got fat at their own ease;  
But when to hog's estate these porkers got,  
The fates decreed their lard should *go to pot*;  
For then, remorselessly chopp'd up in chops,  
Their flesh adorn'd the Plymouth butchers' shops;  
Or, stuck on ship-board, they were doom'd to bleed,  
That on blood-puddings warriors might feed;\*

\* "And fat black puddings, proper food  
For warriors who delight in blood."—*Hudibras*.



Fresh scoff to purchase, mates and mids all round  
 In *ready rhino* paid a groat a pound :  
 Porcus his price, for joints both great and small,  
 Head, pluck, and harslet, pettitoes and all ;  
 Nay, so insatiate was his love of gold,  
 That e'en their bristles he to cobblers sold !  
 Thus ran the man his money-making rigs,  
 And to a right good market brought his pigs.

One blue-eyed morn, while heeling to the breeze,  
 The ship plough'd furrows in the "fruitless seas :"  
 A truant grunter from his sty crept out,  
 And to a port-hole went to air his snout ;  
 Just then, the ship to leeward gave a roll,  
 And, lo, the pig fell overboard, poor soul !

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When this retail pork-vender, with chagrin  
 Saw a black porker midst the waves so green ;  
 To save his bacon was his only aim,  
 And splutt'ring upon deck in haste he came,  
 Then, with vindictive looks and gestures wild,  
 Thus the lieutenant wrathful he revil'd.—  
 "Are you a man, an officer? shame, shame !  
 Have mercy, pity, on that soul no claim ?  
 That you are thus unsympathizing found,  
 While a poor, dear, dumb animal gets drown'd ?  
 See'st thou yon pig, how fast astern he floats ?  
 Quick, turn the hands up ; hoist out *all* the boats ;  
 A pig, in case to meet the butcher's knife !  
 Let every nerve be strain'd to save his life.  
 What ! are we stocks and stones ? I scorn the charge,  
 Call Bluff the coxwain, he shall steer the *barge*.  
 What ! can humanity thus lag astern ? haste, haste,  
 To snatch yon victim from the wat'ry waste.  
 This waste of life is sinful ! fie, fie, fie !  
 The poor pig shall be *thav'd*,—the pig shan't die.  
 Shylock himself would save him, though a Jew,  
 Down with the helm, sir ; let the ship bring to :  
*Thir*, don't I speak *distinct*? you stand and stare ;  
 Heave all aback, sir ; lay the yards all square."

To this the Luff facetiously replied,  
 "Let not to such excess your choler rise.  
 Trust me, no officer can feel more pride  
 To see his captain's table well supplied :

• Homer.



Would all your sour small beer was chang'd to hock ;  
 Would your *two* sheep were turn'd into a flock !  
 Oh, would your ducks could twenty-fold increase ;  
 I think, myself, each duck worth twenty geese ;  
 I curse the nip-cheese Purser, when he growls,  
*Gratis*, with bread-dust to supply your fowls :  
 And deem these feathered tenants of the coop,  
 More than sea-soldiers grace a vessel's poop !  
 Think not I would withhold from yours or you  
 Becoming reverence and homage due.  
 I love your poodle ; I caress your cat ;  
 When your goat ba-a-as at me, I doff my hat ;  
 None treats with more respect his captain's swine,  
 But yon dumb animal is none of thine !  
 Dismiss your terrors—and lament no more,  
 Yon pig now drowning is the boatswain's boar."

"The pig not mine ! not mine !—keep back the barge,  
 Brace round the yards again : port hard, steer large ;  
 Haul out the spanker, clear the lee-throat brail ;  
 Man the jib haulyards, call all hands, make sail ;  
 The poor pig *cant be thav'd* ; the pig must die ;  
 What must be must ; his doom was fix'd on high :  
 To see him perish is a grievous sight,  
 But Pope said well, "whatever is is right?"  
 Tell Pipes 'tis irreligious to repine  
 When Providence thinks fit to drown our swine !  
 His pigs are now made orphans, and his sows  
 Are robb'd by death of a most loving spouse ;  
 Yet not unhusbanded his swine shall be,  
 I'll give him *leave to buy* a boar from me.

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SHIPS AND PATENTS.

*To the Editor of the Nautical Magazine.*

October 21, 1835.

SIR,—I am happy to observe in your Magazine for this month, an article on the "Defective Discipline in Merchant Ships." While I agree with the writer in general, I think he has made a mistake in opening the case : but which, however, does not affect its merits. He says, "It is not a little extraordinary, that, considering the extent of our trust in respect to the lives of others,—and that next important consideration in this our state of human existence, their purses," &c. Now, I most respectfully submit, that the precedence ought to be reversed, and that it should be, "It is not a little extraordinary that, considering the extent of our trust in respect to the *purses* of others,—and that far less important



consideration in this our state of human existence, their *lives*," &c. However, I am glad to see the article in any shape, as it shews that an excitement on merchant shipping is beginning, which, I trust, will never be allayed until the evils affecting it are remedied, for nothing can be more true than that the situations of commanders, officers, and seamen, all want amending. And, I am quite of the writer's opinion,—not taken upon theory, but speaking from practice and experience,—that nine-tenths of the differences on board merchant-ships arise from want of a proper scale of rations, and issues of provisions in conformity. It will be recollected that this was the master grievance which caused the mutiny in the Royal Navy, and without the mutiny it is questionable if the abuse would have been remedied at this day. But all experience is thrown away upon us, as it is an established rule in Britain, where abuses have grown venerable from age, and inveterate from practice, that they shall not be remedied, until such an excitement as I shall not describe, either remedies them, or produces worse effects. The abuse of marine insurance has completely proscribed safety to merchant-shipping; and the want of a proper code of regulations for conducting them, will, if not attended to, render it unsafe to embark in a British merchant-ship. In spite of all the cant, humbug, and affected philanthropy of "the saints," the sooner that period arrives, the better for mankind, for, according to all experience, not till then will the evils in practice be remedied. My purpose, however, is to make a few remarks on the subject of patents connected with shipping, and more particularly with reference to merchant-ships.

I quote from memory, and may either be in error, or forget some articles, but think we have patents for the following articles.—A patent for seasoning timber to prevent the dry-rot; sheet copper, and composition nails, for sheathing ship's bottoms; felt, rudders, anchors, cables, chains for running rigging, windlasses, pauls, capstans, compasses, binnacle-lamps, cooking-hearths, ventilators, scuttles, signal and hand-lanterns, pumps, ship's and hand-masts, fids, canvass for sails, cordage for standing and running rigging, improved sextants, quadrants, and logs, and log-glasses, markers to shew the quantity of water in a vessel; sundry articles, I have no doubt, omitted: and chronometers, for which national rewards have been paid, and most justly. In steamers, too, we have patent steam-engines, and paddle-wheels galore,—altogether a pretty numerous list. An attempt was even made at patent ships, but was crushed by the influence of underwriters and the craft.

Now, the first idea that strikes a simple native is, What is the use of all these patents? Are they for the safe-conduct of ships, and for conducting commerce more economically, and with greater safety? And, if this be answered in the affirmative, are any mer-



chant-ships, in possession of all these means of safety, ever lost? If this be answered in the affirmative—and the fact of above eight hundred merchant-vessels having been wrecked in 1833, is a pretty good answer—the next thing that suggests itself is, how can this possibly happen? Is it owing to want of seamanship unconnected with these patents, or want of skill or knowledge how to handle all these patent tools by those whose duty it is to do so? If the answer be in the negative, as I presume it must, a paradox will remain to be explained. But this paradox will be greatly increased, if we take a period, say the year 1802, when the nation was at peace, and before most of these patents were known, and 1832, when the nation was also at peace, and most of these patents were in practice, and if, in the latter period, wrecks were more frequent *per cent* of the whole shipping belonging to the kingdom, which I aver to have been the case, than in the former, how is this—and it is a most important question—to be accounted for? Have the patents caused, or been the means of increasing, shipwrecks? The answer evidently must be, No. Have they then been the means of diminishing them? I think there can be no doubt that they have. How, then, is the paradox of more wrecks in 1832 than 1802 to be explained? Answer. By a totally different cause, wholly unconnected with patents causing wrecks, the effects of which were not felt in 1802, having come into full effect since that period.

This cause is, the classification of merchant-shipping, enacted in 1798, *which degraded, by an arbitrary and unjust fiat of the enactors of it—for there is no statute-law to the effect—all vessels built thereafter*, whatever their strength might be, to the second or inferior class, on the very best and most expensive of them which could be built becoming twelve years old, and the vast majority at a much earlier age. The consequence was, that as every inducement was thus taken away from a ship-owner to have a good and safe ship—nay, he was actually punished by deprivation of property for doing so—no good or safe vessels were built. It is much to be lamented that this practice, a little altered last year, but scarce improved, continues to this day, and renders all patents, and other improvements, of little effect. Since the world was created, there never was a greater delusion than that on the public mind, that underwriters pay for all losses at sea with their (the underwriters) own money. The light of heaven is not more clear than the fact, that unless underwriters received more money in premiums than they pay away in losses, they must exhaust their capital, supposing them to be possessed of it at starting, and become bankrupt, and abandon the trade. Further, the more the sea-risk is increased, as a matter of course, the higher the premiums of insurance on ships and goods rise; and the more sea-risk is decreased, the lower they fall; and hence every



art and effort which the ingenuity and wickedness of man can devise, is used to prevent strong and safe ships being built; and this fact being made known to the public, and ships, patents, crews, and merchandise are all sunk in the sea by wholesale, in order to raise and keep up premiums; and I speak within great compass, and far under the mark, when I say, were it not for this baneful influence, upwards of three-fourths of the wrecks might with ease be prevented. Let us hope, that the attention of the public, the only means which can cure the evil, will be directed to it forthwith, and that petitions will be forwarded to parliament, so soon as it meets, praying for an investigation into the subject.

The public are greatly indebted to you, Mr. Editor, for exposure of this monstrous abuse; and I am, with respect, your most obedient servant,

NEARCHIUS.

#### DISCIPLINE IN MERCHANT SHIPS.

*To the Editor of the Nautical Magazine.*

SIR—While it is acknowledged that many of the opinions expressed in the letter of the Master of a British Merchant Ship, inserted in your truly valuable Magazine for last month bear evidence of being the result of considerable experience, the conclusions drawn from some of the facts which it details, appear to be exceedingly hasty and unfounded, and to have been written under the influence of a prejudice which one could not but hope had passed away for ever. I cannot refrain from making a few observations on the following passage, interested as I must ever feel for the welfare of a race of men, to whom this country owes so much, and for whom it has done so little; for the sentiments which it contains, if adopted generally, would have the effect of paralysing every effort for the amelioration of their condition, and of creating a heartless indifference both to their moral abasement and their corporeal sufferings.

“The real fact,” says the British Master, “must not be disguised, that the life and habits of a common sailor render him the most unprincipled and unfeeling being on earth. How can it be otherwise? What is the life of a sailor?—his ordinary routine? Whenever out of a ship, he is more or less in a state of beastly intoxication: during this time he is in the society of the very worst and lowest description. From the day of leaving his last ship he has, perhaps, never been quite sober: here he arrives, plundered to the last farthing, and most probably in debt the advance he gets in his new service, diseased both in body and mind; and here he mixes with others from the same sort of dens of iniquity—and this is the picture of his life! Just imagine, Mr. Editor, a man amongst them partially educated, one that has just



learned enough to be able to estimate, when he comes to his senses, (for he will have mixed with his messmates' sprees on shore,) the true nature of his life; and if this is a man with a little more than ordinary feeling, he soon becomes just in a fit state for being the proper tool in any one's hands for deeds of any desperate character, if not to originate them, and lead others. So much for education among sailors, which it was not my intention to have meddled with. The only mode he has of revenging himself for the expulsion which he feels is his doom, from all the common interests of our nature, is to act the brute, the unwarrantable brute, towards those who are placed over him on board ship, and which the company he has just left on shore has taken care to instruct him, he can play off with impunity."

I shall take these deplorable statements in their order, and prove, I trust, that so far from their forming a ground for the withholding of education, they afford the very strongest proof of its necessity.

And first, that national stigma—the constant intoxication of our sailors while on shore. Without attempting to explain from what causes this disgraceful distinction of *our* mariners above those of all other nations of the civilized world, has arisen, the question may be fitly asked here, are the *utterly* ignorant or *partially educated*, amongst sailors, most generally found in this state in the intervals of employment? This question should certainly receive an answer before education is charged with the immorality. What is meant, however, by a partial education, is not explained. If it be intended to signify an education wholly without religion, the conclusion may in many cases be just. Still the experience of mankind goes to prove that education, even a small degree of it, gives a sense of reputation, and a sense of reputation in itself is often sufficient to prevent a man from proceeding to the same lengths of wickedness and inebriety that he would do if he were in utter ignorance. But what prevents the youth of this country, who are intended for the seafaring life, from receiving an education essentially religious?—and what better or more probable means can be proposed of preserving sailors from that horrible depravity of manners, which the British shipmaster describes as now prevalent amongst them? Are the people of England to be persuaded that this state of things must continue, that the life and habits of a sailor are from generation to generation to go on, rendering him "the most unfeeling, unprincipled being on earth?" Or will they not rather conclude that there is something radically wrong in the management of this being? and if his character be such at present, that there exists an imperious necessity for such a reform in the government established on board ship, as shall promote the moral improvement of the crew? This, and this only, can effectually serve the interests of the owners,



and give to the commander that influence which will generally insure obedience.

One benefit of general education is certainly this, that it soon convinces mankind that all cannot be masters ; and that while some are deputed to command, others must as certainly obey. Education, too, even if the principles be unsound, makes a man hesitate ; consequences are before him ; but ignorance may be generally expected to go recklessly to its work of mischief, utterly regardless of results. Unless proof can be advanced to the contrary, it will not be easily believed that an intelligent sailor is often found in a mutinous cabal, except he has himself suffered from tyranny ; but the ignorant have nothing wherewith to repel temptation to such associations. Nor does it seem at all probable that a man partially educated, that is, according to the interpretation of the British Ship-Master, sufficiently to know that he has suffered degradation by sharing in the riots and immorality of the crew with whom he sails, will, on the recovery of his senses, become, from desperation at the nature of his life, a fit instrument in the hands of others for deeds of a desperate character. It seems, on the contrary, much more likely that disgust at the conduct of his companions, and shame at the degradation to which he has been brought by them, will operate powerfully upon his mind to determine him in future to avoid the scenes which has debased him. This is more especially likely if he is fortunate enough to have in his commander a man capable of appreciating this shame, and directing its influences.

In short, it has long been an unquestionable truth, that *ignorance is the parent of crime*. We have the voice of Solomon, declaring in his divine apophthegms, that " for the soul to be without knowledge is not good ;" and the testimony of innumerable observers of human nature, in every age and nation, proves its wisdom. Those who have had the best opportunities of inquiring into the intellectual condition of the convicts in New South Wales inform us that the great majority can neither read nor write ; and is it not notorious, that amongst unlettered nations brutality is predominant ? So must it be also amongst unlettered individuals. It is not indeed easy to perceive how they are to be preserved from it. Education alone constitutes the superiority of nation over nation ; and it assuredly follows, that it must have the same influence on the characters of individuals in every community. Education only, it is clear, can produce *reflection*, and reflection at once gives a check to vicious propensities. However, in treating of the subject of education, we are bound to take higher ground than expediency. The power of reading the Scriptures, it is the unquestionable duty of a Christian public to give to *all*. We are *not* answerable for the perversion of this measure of knowledge, but we *are* answerable for the errors, and vice, and misery



consequent on total ignorance, in so far as we have contributed to perpetuate and to extend its sway.

But it cannot be argued certainly that the necessary and obvious consequence of education is vice. Decency, at least, it must promote, and virtue and religion it certainly may. In this country, the education that is imparted to the lower classes, more particularly, is generally combined with some portion of religious instruction, which, though it may in many cases be sown in a very unfruitful soil, will in many also produce beneficial effects on the character. The undue influence which a man possessed of little education is said to exercise over an ignorant crew, would obviously be annihilated, if all had the same advantages of obtaining information. And surely it is not too much to hope or to expect, that the insubordinate and unprincipled conduct of one seaman possessed of some degree of knowledge, may receive a timely reproof from the right behaviour of another, whose intelligence must give him an equal power over the minds of his associates. It is certainly highly probable, too, that it has frequently this effect, although the cause is altogether unseen. The smattering of knowledge which an ill-disposed and troublesome sailor uses to the annoyance of his commander, is of course known, and naturally enough charged with his insolence and insubordination; but the same degree of information is probably employed in a very different way by another, whose quietness and regularity of character attracts no regard.

I am not a little gratified to remark, that the attention of Mr. Buckingham, M.P. for Sheffield, has been directed to this letter. His great extent of observation during his varied and eventful life, part of which it is understood was spent in the merchant service, well qualifies him to form an accurate judgment on the subject, while his high legislative ability, and energy of character, will scarcely fail to originate and complete measures adapted to the removal of the grievances complained of.

I am, Sir, your always obliged Reader,

THE SAILOR'S FRIEND.

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#### STABILITY OF THE VERNON.

*To the Editor of the Nautical Magazine.*

Portsmouth, Sept. 22d 1835.

SIR,—Will you permit me, a constant reader of your Magazine, to suggest to you a trifling addition to your future reports of experimental sailing, which, without increasing much your trouble, or occupying a large space in your pages, would, I think, be acceptable to many of your readers, particularly that portion of them not thoroughly acquainted with nautical terms. From the reports of



Sir Josias Rowley, and the letter of Capt. Price, (published in your last number) on the comparative rates of sailing of the Vernon with other ships, especially the Portland ; we ascertain the fact that the Vernon was superior to that ship, the best of her competitors, on *all* points, even when going large, her worst point of sailing ; the professional detail therein given is doubtless sufficiently clear to a naval reader, and the introduction of a small diagram\* would point out the relative situations of the two vessels at any point of time during the trial, even to a person quite unversed in nautical expressions.

This report, however, only informs us of the fact that the Vernon has a decided superiority over the Portland in the point of *sailing*, and that, consequently, should she meet with an adversary in every respect similar to the Portland, it would be at the option of her captain either to enter into or avoid an engagement. We learn from the Navy List that the Portland carries 52 and the Vernon 50 guns, giving a *numerical* advantage of two guns to the former ; this, however, gives us but an indefinite idea of the *real* power of these two vessels ; a much more correct estimate may be formed by comparing a round of shot in the two cases, that is, the weight of shot thrown by the discharge of *every* gun once, in each ship. The armament [of the Portland consists of 30 24-pounder guns on her gun-deck, 6 24-pounder guns and 16 42-pounder carronades on her fore-castle and quarter deck ; making a total of 1536 lb. of shot in each discharge : that of the Vernon is 28 32-pounder guns (of 56 cwt.) on the gun-deck, and 22 32-pounder guns on the quarter-deck and fore-castle, giving a round of shot of 1600 lb. ; the difference, viz. 64 lbs., shews an advantage *equal* to two 32-pounder in favour of the Vernon, supposing them to meet under such circumstances that both vessels could use their whole broadsides with equal effect. But this could not always be the case ; we find by Capt. Price's statement, that the angle of heeling of the Portland was from  $7^{\circ}$  to  $10^{\circ}$ , while that of her antagonist was but  $6^{\circ}$  ; now, by comparing these inclinations with the respective breadths of the ships, we shall see that the guns of the Portland would be brought nearer to the water by a distance of 4 feet, while those of the Vernon would be lowered but about 2 ft. 10 in., and assuming the heights of the ports of the two ships to be equal, and the height of the gun in the midship port above the water to be 8 ft. when the ship is upright, we should find that when these ships were inclined by the effect of a wind of equal force to that under which the reported trial occurred, the height of their midship-guns above the level of the water would be respectively 4 ft. and 5 ft. 2 in. : with greater angles of inclination these heights would be proportionally diminished. We may, therefore, fairly assert that beyond certain limits the lower tier of guns of the one ship could

\* We shall not lose sight of our correspondent's suggestion.



not possibly be used, yet she would be exposed to the fire of the undiminished broadside of her opponent; or, in other words, for every 1600 lbs. of shot which she *received*, she was able to return only 816 lbs. scarcely more than one half: and further, although the quarter-deck of the Portland is furnished with 16 42-pounder, these are *carronades*, a species of cannon which, it is well known, cannot be used with nearly the precision of the gun, and is consequently a very inferior arm, excepting for short distances.\*

I have made this comparison on the supposition that the height of ports in the two ships is the same: I believe that any existing difference will be found to give a result *more* in favour of the Vernon; but as I cannot speak from authority, I prefer giving the assumed comparison, since an addition or deduction (as the case may require) to the above-stated results, will afford all the necessary correction.

I have troubled you with this communication, in the hope that you may be induced to continue the insertion of such reports as those in your last number, and to add to them such other details as may be useful to those who make the difficult and important science of naval construction their study: to the advancement of this science, which must necessarily depend as much on experiment as on mathematical investigation, the relation of no fact connected with the performance of a ship at sea can be unimportant, and to no source can we refer for so unprejudiced reports as to the official documents you have obliged so many of your readers by publishing.

I am, Sir, your obedient servant,

J. ALLAN.

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COPY OF A JOURNAL KEPT BY WM. DAVIDSON, SEAMAN ON BOARD  
A RUSSIAN PRIVATEER.†

THE 3rd of December, 1788, we sailed from Leghorn with a prosperous gale on board of the *St. Duman*, a Russian Privateer, bound for Messina, in the Island of Sicily, as a Merchant Vessel; she would arrive there, and from hence she was to get a clearance to go a Cruizing. We had not been long out before the wind came to the Eastward, and blowing very hard, we were obliged to bear away for Port Feraro, in the Island of Elba, 15 Leagues South of Leghorn, and soon got in, and moor'd in that place, we

\* The *point blank* range of the 42-pounder *Carronade*, at a height of 8 feet above the ground plane, is 270 yards, that of a 32-pounder gun at the same height is 420 yards.

† The Original of this Journal was shown to Lord Hood by Captain Keats of H.M. Ship *Niger*, on board which Ship the said Davidson was, and deserted from her at Portsmouth, in 1794. N.B. It is reported that he was afterwards impressed into the Royal George and was Drowned by accident.



were getting the Guns and shot from under the Ballast, and were fixing then in their carriages when they taking notice of us from the shore that we were fitting out as a Vessel of War they send an Order on Board for us sail immediately, and if not they would stop the Ship, as that is not allowed for any Ship of War to fit out in any Part belonging to the Grand duke of Tuskany.

22d. we sailed for Messina with a fair wind and clear weather.

But on the 25th the wind coming ahead and blowing hard we were obliged to bear away for Longona.

The 27th we got in and moor'd. We lay there thirteen days in which time we got all our Guns fixed and every thing ready for sea.

We set sail for Messina with a fair wind and clear weather.

The 24th of Jan., 1789, arrived safe in our intended Port where the Englishmen all would have left the Ship if they could, as the Captain would not allow them for to go until he could get to Malta, thinking he could get hands there. The 2d of February we sailed for the Island of Malta. The 9th got in. The 11th got pratique, the 12th hauled the ship up and moor'd here there, we mended all our sails and made new nettings and got on board Small Arms in No. 30 Musquets, 50 Cutlasses, 24 Blunderbusses and 80 Pistols, but then the Grand Master would not allow us for to take Men which made the Englishmen very discontented as they could not get their Discharge.

There came on board of us three Slaves on the 14th they had been Murderers that had made their escape, our Captain protected them on account they had entered with us.

The 16th of February we sailed for the Island of Zante which we were obliged to go to with them as it is there we are going for to Man our Ship which frightens us the more as the inhabitants of that place are nothing but Thieves and Pirates; all this time we had a fair wind and clear weather until we had got as far as Solen then the wind came against us and blowing hard we were obliged to bear away for Cephalonia where we got safe in and moor'd. We had not been in many days before we got Sixty of these Pirates on board us we call them nothing else upon account the most of them are Pirates. Three we got on board of us were Carpenters and cut two Port Holes between decks, where we put 2 12 Prs. and then got every thing ready for Sea. But the day before we sailed the Captain of the Pirate that sunk the Dutch Ship in the year 1786, gave our Captains 500 Crowns to take him on board as the Lieut., and certainly would have done it if the Russian Consul would have let him but as he told him that if he was to take him off the Island that he would have all the men of war on the Streights after him so that when he found he could not take him off the Island he sailed on the 7th March for the Island of Preveze and



the 11th got in, on the 12th moor'd Ship. We had not been long in before that we heard that there was some Pirates on Shore in the Mountains which our Captain wrote several letters to them to come on board, besides every night we could have the boats on Shore armed in readiness for to take them on board. One day the Captain went up to town and met two of them which he told them for to go and tell the rest to come down about the Ship at night, so they did for there came down that night 34 of them all armed and we took every one of them on board which made us English and Italians very discontented as they were all Pirates. There was a boat came and told us there were 4 Vessels in Cephalonia with Turkish Cargoes on board but Greek Sailors, which we unmoored and steered for the same place, but being little wind and Calms seing no Vessel that next morning we spoke a Ragusa Brig with Turks Passengers in come from Candia, bound for Zea which had a great quantity of Dollars and Silks with them, that we took from them, but the Turks we let go as they were under Neutral Colours. Next day shared the money which came to 43 hard Dollars a Man, as for the Silk the Captain kept for himself.

The 22d March we seen a Sail going down along Shore, which we hauled the long boat up and put 8 Swivels and 35 Men, all armed in her, and sent her after the Vessel as it was Calm and soon came up with her and fired two Guns, which she returned the same and both sides fired for the space of 40 minutes. Lieut. got wounded and 5 men killed our boat was obliged to return on board and get more hands and gave chase for them for three hours the wind blowing a little fresh, she soon left the long boat out of sight and returned on board again. We seen a Sail ahead and gave chase and soon came up with her, she proved to be a Prize which we sent 5 hands on board of her and sent her for Cephalonia, she was loaded with Wine and Brandy, afterwards we took all out of her and sunk the Ship, besides killing 9 Turks that was on board, as for the Greeks they entered with us.

April 2d we sailed for Solere and that same day we got in and moored there. Three Vessels made an attempt to get away upon which we armed the long boat and sent her out in the night to lay wait for them as they would go out. They taking notice of us never moved, but in the mean time the long boat fell in with and Captured a Vessel with Jerusalem Colours but Turkish property which was 9 Bales of Silk, Honey and Soap, the rest we sunk in the Vessel People and all together in No. 15 Turks. That same night we took another, but had nothing but Ballast in we let her go.

We got all the lumber and Sails on Shore and all the ballast out of the Hold.

The 8th and 9th we were working very hard and had but little



wine on board which the Captain ordered the 2d Lieut. to go out in the little boat and gave him orders to take the first Vessel he met with let her be what she would if she had wine on board which he did for he brought in a Vessel that had seven Pipes of Cyprus wine in which we took it all out and let her go, she was a Greek Settee came from Samos.

April 11th we righted the Ship and took all the Ballast in.

The 12th we hauled out from the Shore and bent all our sails and got the Ship ready for Sea.

The 13th unmoor'd and got all the Vessels boats in the Harbour to tow us out but before we went out the Merchants gave our Captain 15,000 Hard Dollars for not troubling them any longer which our Captain told them he would give them three days for to get away and no longer, so we left them. Soon after we had a fair wind and at 4 o'Clock came to anchor on the Turkish Shore, where we send the long boat and Yawl (armed) on Shore for Stock, which they killed 5 Bullocks and 34 Sheep, besides leaving a great number on Shore that the boats could not bring off.

April the 24th we seen a Pirate which came on board us and told our Captain that if he went to Magare he would get plenty of small Vessels there belonging to Cyprus but they had nothing in but fire wood, upon which our Captain said it was not worth while to go up after them, in the mean time this Pirate had in this harbour one Ragusa and three Venetians that he had taken two days before, and was taking the best of every thing out of them for to sink them as for the people they killed them when they were taken and in the room of our taking this Pirate we let him go because he was one of our Captains old acquaintances. We had not put all our things to Rights when we seen two Ships coming down towards us which we got all hands to quarters and every thing ready for engaging them as we took them to be Turkish Men of War, but as they came within Gun shot of us they hoisted Russian Colours which we were glad to see. They were two Russian Privateers bound to Zante.

April the 15th we sailed for the Island of Zante and the next day got in and moor'd. The Captain went on Shore thinking to get pratique, but could not as we had been on the Turkish shore.

On the 17th the Captain went on Shore to see if he could get a new Main Mast alongside, got out the old one and stepped the new one. People employ'd fitting the rigging Launch employed watering and the rest of the people employ'd clearing the hold.

The 22d we got all our Provisions and water on board.

23rd set up the rigging fore and aft and got every thing ready for sea.

April 24th there was a Ragusan Ship lying in Zante that had Turkish passengers on board bound for Smyrna and had two thousand five hundred Dollars in belonging to these Turks which



was liable to be taken by us if we were only to meet her as soon as she would sail.

April the 25th she sailed about 10 o'Clock in the morning and was about 6 leagues off when we got under weigh and gave her chase and was coming up with her very fast, but it soon came a Calm, in one hours time the breeze freshened and she getting it a long time before us left us out of sight and coming on to blow we hauled down the Stud<sup>s</sup>-sails and took in top Gallant Sails and went under easy sail all night.

The next morning (the 26th) made all sail and stood in for the Turkish Shore, where we saw a Vessel at Anchor and taking notice of us coming in she got under weigh as fast as she could; which we followed her and soon came up within Gun-shot of her and fired 23 Guns at her before she hove to, in the mean time we had Venetian Colours up and we plundered her of every thing she had on board, besides one of our Men killed their Captain and two Men for only asking ours to return a small Chest of Turbans and sashes which he had taken. This was a small Polacre Turk loading there.

The 27th we stood out all night we had a fair wind and about 4 o'Clock in the Morning we hailed a Ship which answered she was a Frenchman from Marsailles bound to Constantinople our Captain told him to stay by us till daylight which he said he would and soon after (we taking notice of his making all sail he could) fired a Gun at him which he not minding we fired a second and carried away his maintop Sail yard which made him cry out he thought we were Pirates as there was always so many about this place, so we let him go on his Voyage.

On the 28th we saw several Vessels but never offered to go after them but went in a harbour in the Island of Cerigo; where we came to anchor.

On the 29th there came in a Vessel under Jerusalem Colours which was a good a Prize for us at sea, but as we were under a Venetian Fort we could not take her, that same day the Captain went on Shore to see if he could get any hands.

On the 30th There came in the same Vessel that our long boat engaged 31st of March upon which our Captain was resolved to lie up with her, at night we armed both boats and sent them out for to lay wait for her when she should come out and about 11 o'Clock at night this Vessel to her misfortune got under weigh and going out when our boats fell in with her and killed all hands on board only two Boys which we put on Shore at Thermia.

The 2d of May there came on board us 23 hands which made our compliment in hand 215 altogether with which we were near ready to go a Cruizing. In the afternoon the Captain came on board and ordered all hands aft and read his Commission which



was that we were going against the Turks and as they were a cruel Enemy that we must stand true to our Colours and that we must neither give nor take quarter, but burn or destroy all that came in our way and the more we took the more we should have for ourselves, besides doing so much good for the Russian Empress upon which all hands gave three cheers, and said there was no fear. At night we sailed for the Archipelago had fair wind all night and blowing fresh about 4 o'Clock in the morning the Long boat broke adrift from our stern at the Island of Milo where we went in and came to an anchor, hoisted out the Cutter and sent her after the long boat and a short time after brought her alongside but she had lost all her arms and every thing else she had in.

The 3rd we sailed and saw a Venetian Ship bound for Smyrna, overhauled her and let her go.

On the 4th we seen a Ship which we gave chase to and at 5 o'Clock got alongside her she proved to be a Turkish Cruizer of 14 Guns and after engaging her half an hour she struck after which we put the Prisoners to death in No. 123 took the best of every thing out of the Ship and sunk her.

May the 5th seen a small vessel from the Mast head and it being Calm, manned the long boat and sent her after her, which she took and brought her alongside she proved to be a Turk laden with Wine and Brandy we put the Prisoners to death and took what Wine and Brandy we wanted and set her on fire, in the mean time there was another coming round the point which our long boat boarded without any defence by this time we got under weigh with the Ship and went out and spoke this Vessel she proved to be a good Prize loaded with Cotton Silk and Honey. In the afternoon it came on to blow and rain at ten o'Clock we lost sight of her it was so dark which caused us to fire several Guns and had lights up all night but to no purpose for she never seen or heard from us.

The next morning (the 6th of May) we went to look for our Prize but could hear or see nothing of her, which troubled our Captain very much as he thought the Prisoners had retaken them and killed our people as they were 5 to 1 on board.

Next morning (the 7th) we stood in for a small Island belonging to the Greeks, on which all hands went on shore and plundered them of every thing they had on the Island. The same day we spoke a fishing Boat but could give no intelligence of our Prize.

The 8th we heard they were prisoners in the Island of Hydra where this Vessel belongs to which so much enraged our Captain that he would have them out or he would put every Man, Woman, and Child to death.

The 9th we sailed for that place but in the afternoon it came a Calm all that night, and the next morning it came a light wind right against us we seen a sail which we gave chase to and soon



got alongside of her she proved to be a Privateer belonging to Tunis which engaged us for one hour and struck we took all the Prisoners on board in No. 125 and after examining them one of them told our Captain that they would have struck sooner only they expected us to board them, when they would blow us all up in the Ship, upon which our Captain ordered them all on board their own Ship again only the Man who told us what they intended to do: after they were all on board we took powder and made the man we kept on board go and set her on fire people and all together, which was a dreadful sight for us to see. The Man we forgave and put him on shore on one of the Greek Islands. At 12 o'Clock at night the wind came in our favour.

The 12th May we got into Hydra and fired several Guns into the Town which knocked down some of the Houses and killed several of the people, which could escape from them the Governor came off to know what was the reason we behaved in this manner upon which our Captain made answer that if he did not deliver his people up and the Vessel that he took he would put to death every man in the place upon which the Governor made answer that he never seen or heard of her, since the day that she sailed from thence. Then the Governor went on shore and sent off Provisions and money 500 Sequins.

That night we sailed and next morning, the 13th, spoke a French Brig who informed us that our Prize was gone down to Carigo then we steered up for that place next day we took a small Vessel with Cyprus Wine the Turks we took on board our own Ship and put them to death in No. 15.

The 15th we got in and found our Prize there and another she had taken going down but we could not make a Prize of her as she belonged to some Greek Merchants we took all the Silk and Cotton and most of the Honey out of our own Prize and got 10 6 Prs. off the shore and put them in the Prize 60 hands and fitted her as a Tender to go along with us on account that she sailed very well. Stopped two days getting ready for sea again.

The 19th we sailed for the Arches, that same day we saw seven sail which we gave chase to and soon came up with them, they proved to be Prizes to a Russian Privateer bound for Trieste under her own Convoy and all richly laden. It blew fresh no sail seen that day.

Next morning, the 20th, we anchored in Thermia when they were very glad to see us as there was a Turkish Galley on the other side the Island going to plunder them, in the night at 10 o'Clock we sent the Tender after her, at 3 she took her without the least defence she had on board 85 hands which we took on board and confined them in the hold till the next day, then they were called up one by one and their heads cut off in the manner we cut ducks heads off at home and then we threw them



overboard. Now this being the first time we were obliged to take by turns to put them to death, the Englishmen when they were called upon at first refused it but the Captain told them they were Cowards or people that were afraid of their enemies, he would not believe they were Englishmen then they went and did the same as the rest and afterwards were worse than themselves for they were always the first when such work was going on and at last got quite used to it for sometimes we had 3 or 4 of a day to put to death for one mans share.

The 23rd we sailed for Ancona and at night got in and moored next day we got some of the Ballast and Water in, that same day our Tender brought in a good Prize loaded with Honey soap and tobacco which we sent to Malta.

The 25th we got every thing ready for Sea, about 4 o'Clock in the Afternoon seed a sail in the Offing which we took to be a Turkish Man of War, we slipped our Cable and went out after her and got every thing ready for engaging her, as we came within Gunshot of her we fired a Gun which she did the same and hoisted French Colours she was a frigate looking out for Pirates as there is so many about he sent his boat on board us for to know where we fitted out of or what we was doing, but our Captain would only tell him he was a Russian Cruizer and that his Commission was as good as his, when the French Captain told us to mind what we were about and bid us good bye when he stood out for sea and we stood into Harbour for our Anchors and Cables.

(For conclusion, see Supplement.)

#### PRESERVATION AT SEA.

##### *To the Editor of the Nautical Magazine.*

SIR,—A circumstance mentioned to me in 1824 by the late Mr. White, master of the ship William Neilson, may perhaps be worth a corner in the Nautical Magazine.

In 1823 Mr. White, (then mate of the William Neilson,) being on shore at Demerara, saw some experiments made in stopping a bottle of spirits with cotton slackly, and on inverting the bottle the cotton did not permit the spirits to escape. Mr. White lost a trifling bet on the subject, which he stated he was far from regretting, as he had no doubt it was subsequently the means of saving ship, crew, and cargo.

On the voyage home the William Neilson was struck by a heavy sea, which washed away the greater part of her staunchions on one side, a considerable part of the covering board, and rent more of it. There was every appearance of the ship's foundering, and the master asked Mr. White if he could think of any resource for safety, when Mr. White on the instant recollected the stopping of the bottle with cotton; and, as they had cotton on board, they



immediately cut up a couple of bales, and stuffed down about a bale and half between the timber heads, and by this means got the vessel safely into Baltimore.

*Quere.* Might not cotton plugs be useful on board men-of-war in action !

ARION.

### TOR BAY.

*To the Editor of the Nautical Magazine.*

SIR,—In the description given of the scenery about Tor Bay in the first volume of the Naval Chronicle, is the following extract : “ It has often been a subject of surprise to naval men, that no attempt has yet been made by this country to render Tor Bay perfectly secure at all seasons of the year. It might be effected at a very inconsiderable expense, when compared to the important advantage that would be derived on various accounts from such an undertaking.”

It may not be deemed amiss to draw the attention of the proper authorities to the above statement. The lively interest, Mr. Editor, you have taken in the proposed haven of Port William at Redcar, on the east coast of England, and your solicitude for the interests of our royal and mercantile marine, will induce you, perhaps, to afford room for these observations, and, by way of elucidation, to give a chart of the bay and its soundings, from which your readers may the more readily understand in what manner the anchorage may be made secure against easterly winds, &c. Having no personal knowledge of the locality, I cannot describe the probable mode to be adopted for effecting so desirable an undertaking.

It may be said, that, as the Sound at Plymouth has, since the above remarks were written, been rendered a secure place of refuge for our fleets during storms, &c., the necessity for a second haven not far distant is superseded. Arguments, however, may be advanced favourable to such a plan ; indeed, ports of refuge on our stormy shores cannot be multiplied but to advantage, both as regards our navy and our merchant vessels. And should the talked-of improvements be accomplished at Portland, with Tor Bay rendered secure, such increased resources for the protection of shipping in the navigation of the Channel during tempestuous weather will be afforded to the navigator, that his mind will be relieved from much of that anxiety which has hitherto not failed to press upon it on such occasions : to know that there is a port “ under the lee,” is one of the most comfortable reflections felt by the mariner ; and as no period is so favourable for projects of this sort as during a profound peace, it is to be hoped that, whilst the energy and talent of the civil engineer, aided by the resources, the zeal, and the speculative propensities of our mer-



chants, manufacturers, and tradesmen, are called into action, in the construction of rail-roads, &c. &c., *he* of the marine may not lack work.

Independent of the individual security it would afford the mariner, the improvement of our sea-ports is of national importance to a country whose main dependence for security, as for the means of supporting her dignity and high station among nations, is on her royal and mercantile shipping.

Nov. 12.

MERCATOR.

[We are always friendly disposed towards these schemes. The plan for converting Tor Bay into a safe anchorage by means of a breakwater, is not new; and when we see it taken up in earnest, we promise our correspondent to be among the foremost to promote the success of the undertaking. ED.]

PROCEEDINGS ON BOARD HIS MAJESTY'S SHIP THESEUS, 74,  
*Captain E. Hawker, from the 4th to the 15th of September,*  
1804, *in the Hurricane which that Ship encountered to the*  
*Northward of the Eastern Bahama Shoals.*

TOWARDS noon on the 4th the breeze was fresh, and the weather cloudy, with a long swell from the eastward; from the angry appearance which the clouds assumed, we began to prepare for bad weather. Sent the small sails out of the tops, double-breeched the guns, rove top-tackles, &c. At noon, lat.  $22^{\circ} 12' N$ . long. at 55 m. past 8, was  $69^{\circ} 45' W$ . The N.E. part of the Square Handkerchief shoal bore S.W. 60 miles; and the N.E. part of the Silver Cay bank, south, distant about 100 miles. The Hercule eighty-four in company.

5th. P.M. Fresh breezes and cloudy; furled the fore and main-top sails; in flying jib-boom, and sent top-gallant yards down. The breeze increasing. At 4, struck top-gallant masts, and close reefed the main-topsail. At 8, the wind blew a strong gale, accompanied with rain; set the storm stay-sails. At 2 A.M., the squalls were very heavy, with rain; furled the main-topsail; the main-staysail split. At 6, furled the courses, sent top-gallant masts down, &c. At 8, hard gales; unslung the lower yards and gaff, and lowered them: at 9h. 30m. the mainsail broke adrift, and was blown away: at noon, heavy storms, swifted in the lower rigging; wind from the N.E., Silver Cay bank S.  $54^{\circ} W$ . 26 miles.

6th P.M. The hurricane had now decidedly set in; wind still at N.E., blowing in tremendously heavy puffs; at half an hour past noon, the main-topmast was literally blown away, and in its fall carried away the topsail yard; cleared the wreck after much trouble. It is remarked, that the wind shortly after began



gradually to shift round towards the west by the south, increasing in violence as it veered; the clouds were almost of a black colour, and completely enveloped the heavens, so that no part of the blue sky could be seen; the starboard-quarter boat and the jolly boat astern, were washed away by a lofty wave, and to save the mizen-mast, the other cutter was cut away, having been blown up the rigging. As the evening approached, the hurricane still continued to rage, and it was found that the ship had become leaky, which obliged us to keep the pumps constantly working; the ship labouring heavily. In this state, with no abatement of the storm, the two aftermost chain pumps broke and became useless, as did also one of the hand pumps; after which misfortune, the water gained considerably, notwithstanding the exertions of the crew: at 3 A.M., five feet water in the hold. The morning approached without there being any diminution in the hurricane, and by the utmost exertions of the officers, who, to encourage the men, laid in to the winches, and the strenuous efforts of the latter by pumping, and bailing from the lower deck, the water in the ship was reduced to four feet. At 8, the wind in a slight degree seemed to lessen: at 10, the weather became lighter and clearer in a trifling degree; at this time the wind was from the S.E.; descried our consort the *Hercule*, to leeward, with her foremost, bowsprit, and mainmast only standing. Our hopes of the storm ceasing were delusive, for before noon, the wind increased again with the greatest violence, the ship labouring tremendously. To ease her, it was found necessary to heave fourteen of the main-deck guns overboard. About this time, the main trusses gave way, and the yard swang from side to side with every roll, attempts were made to lash it to the mast, but it was impossible to be done, but, by cutting the lee-lift and jeers, it was at last got overboard; the boats, however, were stove, and the mainmast and rigging greatly injured: the chain-plates of this mast soon after gave way, and the weighty stick fell to windward close to the deck, and the mizenmast shared the same fate to leeward. At noon there were four feet two inches water in the ship, and the pumps with difficulty holding their own. Silver Cay bank S. 37° W., 68 miles.

Sept. 7th, P.M. The hurricane still raging; cut away the foretopsail yard; found the bowsprit sprung; secured it as well as could be done; lashed the foreyard. At 4, the wind in a measure lessened; the sea very heavy. At 5, the weather began to clear; saw the *Hercule* to leeward, with only her bowsprit and foremast standing; all hands pumping and bailing, but with every effort could not reduce the water under four feet. At 6 bore up, and ran down towards our consort; made the signal to stay by ship in distress, and brought to on the larboard tack, on which the *Hercule* hoisted her fore storm-staysail, and wore. At 7,



the foremast, after having been sprung in three or four places, from several successive and tremendous rolls, went over to windward, leaving a piece of about fifteen feet standing above the deck, which soon after fell down upon the forecastle. Cut away the wreck, and the best bower anchor with which it was entangled. At 8, strong gales with a heavy sea, ship labouring much; sprung the tiller; shipped the chocks. Towards midnight the water gained fast upon the pumps, every exertion used to reduce it, by baling from the lower deck and from the well, and by working the two serviceable chain-pumps. Burned blue-lights to shew our position to the *Hercule* during the night; which, however, were not answered by her. At midnight the water had increased to 5 feet 6 inches, and from the excessive motion of the ship, it was with the utmost difficulty the men could stand to the pumps. At 6 A.M., by the united and extraordinary exertions of the officers and men, the water was reduced to 3 feet 10 inches. At day-light, fresh breezes with a heavy sea; saw a schooner to windward, which bore down to us, having a union-jack flying, she passed under our stern. At 7, saw the *Hercule* a great way to leeward; fired several signal guns. Attempted to wear, without success. At 11 wore, and joined the *Hercule*. Employed getting jury-masts up. Square Handkerchief shoal S.W. 90 miles. On the 11th, ran through the Caicos Passage, and on the 15th anchored in Port Royal.

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*To the Editor of the Nautical Magazine.*

SIR.—I have the pleasure of forwarding you some notes in corroboration of some of the hints given in the *Nautical Magazine*.

I am, your obedient servant,

NAUTICUS.

Experience is the proof of theory—a practical demonstration, therefore, of a proposed plan, is certainly preferable to the most plausible reasons that could be assigned before trial in support of its efficacy.

It is satisfactory to state here, that the truth of the advice given at p. 463, Vol. III. of the *Nautical Magazine*, is most fully and satisfactorily corroborated in the interesting narrative of Captain Kennedy. He says, “I cannot conclude without making mention of the great advantage I received from soaking my clothes twice a day in salt-water, and putting them on without wringing. It was a considerable time before I could make the people comply with this measure; although, from seeing the good effects produced, they afterwards practised it twice a day of their own accord. To this discovery I may, with justice, attribute the preservation of my own life, and six other persons, who must have perished, had it not been in use. The hint was first communicated to me from the perusal of a treatise written by Dr. Lind. The water absorbed



through the pores of the skin produced in every respect the same effect as would have resulted from moderate drinking of any liquid. The saline particles, however, which remained in our clothes, became incruited by the heat of the sun and that of our bodies, lacerating our skins, and being otherwise inconvenient; but we found that by washing out these particles frequently, and wetting our clothes without wringing twice in the course of a day, the skin became well in a short time. After these operations we uniformly found that the violent drought went off, and the parched tongue was cured in a few minutes after bathing and washing our clothes; and at the same time we found ourselves as much refreshed as if we had received some actual nourishment. Four persons in the boat who drank salt water, went delirious and died; but those who avoided this, and followed the above practice, experienced no such symptoms.

*Compressing the Stomach.*

(Nautical Magazine, vol. iii. p. 461.)

The compressing of the stomach to prevent the cravings of hunger, appears not to be confined to the natives of New Holland. Bell, in his *Travels*, (published in 1763,) says, when speaking of the sable hunters, "I have been told by some of these hunters, that, when pinched with hunger in some of these long chases, they take two thin boards, one of which they apply to the pit of the stomach, and the other to the back, opposite to it; the extremities of these boards are tied with cords, which are drawn tighter by degrees, and prevent their feeling the cravings of hunger."

The negroes in Jamaica are in the habit of tying a cloth around their loins, and which reaches high above the hips; if you inquire why they do so, the reply invariably will be—"Massa, me belly naym me;" literally, "My stomach, from the cravings of hunger, consumes me." There is very little doubt that this is done with the same view that the New Hollander uses his belt, and not for the purpose of correcting elabation.

*Illuminating Buoys.*

(Nautical Magazine, vol. iii. p. 485.)

In Carey's *Five Hundred Useful and Amusing Experiments*, at p. 66, ex. 122, is a method for preparing a liquid, which will appear luminous for *several months*. It is as follows:—"Take a piece of phosphorous about the size of a pea, and, after cutting it into very small parts, put it into half a glass of quite clear water. Boil it in a small earthen vessel over a moderate fire, then pour it into a narrow-necked phial, which has just been plunged in boiling water, and instantly put in the stopper, and fasten a piece of bladder over it that the air may be prevented from reaching the liquid. If preserved in this state, it will shine in the dark for several months.



TABLE XXII.

*For reducing Geographical miles (of 6080 feet) to English, and English miles to Geographical.*

1 Geographic mile = 1·15151515 British statute mile.

1 British statute mile = 0·86842105 Geographic mile.

Geogr. or Engl. Miles.	English Miles and Dec. parts.	Geographic Miles and Dec. parts.	Geogr. or Engl. Miles.	English Miles and Dec. parts.	Geographic Miles and Dec. parts.	Geogr. or Engl. Miles.	English Miles and Dec. parts.	Geographic Miles and Dec. parts.
1	1·152	0·868	38	43·758	33·000	75	86·364	65·132
2	2·303	1·737	39	45·909	33·868	76	87·515	66·000
3	3·453	2·605	40	46·061	34·737	77	88·667	66·868
4	4·606	3·474	41	47·212	35·605	78	89·818	67·737
5	5·758	4·342	42	48·364	36·474	79	90·970	68·605
6	6·909	5·211	43	49·515	37·342	80	92·121	69·474
7	8·061	6·079	44	50·667	38·211	81	93·273	70·342
8	9·212	6·947	45	51·818	39·079	82	94·424	71·211
9	10·364	7·816	46	52·970	39·947	83	95·576	72·079
10	11·515	8·684	47	54·121	40·816	84	96·727	72·947
11	12·667	9·553	48	55·273	41·684	85	97·879	73·816
12	13·818	10·421	49	56·424	42·553	86	99·030	74·684
13	14·970	11·289	50	57·576	43·421	87	100·182	75·553
14	16·121	12·158	51	58·727	44·289	88	101·333	76·421
15	17·273	13·026	52	59·879	45·158	89	102·485	77·289
16	18·424	13·895	53	61·030	46·026	90	103·636	78·158
17	19·576	14·763	54	62·182	46·895	91	104·788	79·026
18	20·727	15·632	55	63·333	47·763	92	105·939	79·895
19	21·879	16·500	56	64·485	48·632	93	107·091	80·763
20	23·030	17·368	57	65·636	49·500	94	108·242	81·632
21	24·182	18·237	58	66·788	50·368	95	109·394	82·500
22	25·333	19·105	59	67·939	51·237	96	110·545	83·368
23	26·485	19·974	60	69·091	52·105	97	111·697	84·237
24	27·636	20·842	61	70·242	52·974	98	112·848	85·105
25	28·788	21·711	62	71·394	53·842	99	114·000	85·974
26	29·939	22·579	63	72·545	54·711	100	115·152	86·842
27	31·091	23·447	64	73·697	55·579	200	230·303	173·684
28	32·242	24·316	65	74·848	56·447	300	345·455	260·526
29	33·394	25·184	66	76·000	57·316	400	460·606	347·368
30	34·545	26·053	67	77·152	58·184	500	575·758	434·211
31	35·697	26·921	68	78·303	59·053	600	690·909	521·053
32	36·848	27·789	69	79·455	59·921	700	806·061	607·895
33	38·000	28·658	70	80·606	60·789	800	921·212	694·737
34	39·152	29·526	71	81·758	61·658	900	1036·364	781·579
35	40·303	30·395	72	82·909	62·526	1000	1151·515	868·421
36	41·455	31·263	73	84·061	63·395	2000	2303·030	1736·842
37	42·606	32·132	74	85·212	64·263	3000	3454·545	2605·263



## MISCELLANEOUS INTELLIGENCE.

## NEW BOOKS.

**LUNAR TABLES**, for finding the True Distance from the Apparent Altitudes, without the usual tedious Operations for clearing a Lunar Distance, &c. Under the Patronage of the Lords Commissioners of the Admiralty, and the Hon. the Elder Brethren of the Trinity House. By MRS. JANET TAYLOR. G. Taylor, 103, Minorities.

In a former number, we stated that Mrs. Janet Taylor had been rewarded both by the Admiralty and the Trinity House, for her new lunar tables, since which time they have been preparing for publication. It now remains for us to announce their appearance, in a convenient octavo form; and, with the view of introducing to our readers the successful exertions of this lady in the cause of navigation, in the present instance we can do no better than quote her own rule, with an example.

Take the logs of both altitudes from table 1st, under the  $\text{D}^{\circ}$  hor. par., subtracting the p. p. to seconds of parallax on the right of the columns from each. From table 2nd, take the logs of the distance of  $\odot$  (or  $\text{D}^{\circ}$ ). Add that of the moon to the log. of her altitude, and do the same with that of the sun, or star, which will give the logs. of 1st and 2nd corrections from table 3rd, which will be in one name with the logs. from table 2nd. Then, under the distance in table 4th, answering to both altitudes, will be found the third correction, always with the sign +. These three corrections being applied according to their respective signs to the apparent distance, will give the true distance, cleared from the effect of refraction and parallax. *Example*:

Apparent dist. between  $\text{D}^{\circ}$  and  $\star$   $48^{\circ} 10' 15''$ ; apparent alt. of  $\star$   $28^{\circ} 30'$ ; that of  $\text{D}^{\circ}$   $45^{\circ} 18'$ ; hor. par.  $56'$ .

$\star$ altitude,	$28^{\circ} 30'$	—	log. 0 8284	$\text{D}^{\circ}$ altitude	$45^{\circ} 18'$	log. 0 6554
Appt. dist.	$48 10 15$	+	0 3822			+ 0 5581

1st cor.	—	35 52	log. 1 2106			
2nd cor.	+	35 38				log. 1 2135
3rd cor.	+	1 17				

48 11 18 true distance.

**NARRATIVE OF A VOYAGE ROUND THE WORLD**; comprehending an Account of the Loss of the Ship "Governor Ready," in Torres Strait, and a Description of the British Settlements on the North Coast of New Holland, &c. By T. B. WILSON, M.D. Surgeon, R. N. Sherwood.

IN our last number we announced the appearance of Dr. Wilson's Narrative of a Voyage Round the World, we might say one of his voyages, for he has circumnavigated the globe six times, and amply confirms in his own case the truth of our observation, that circumnavigators have long ceased to be rarities.



The principal object of the Doctor's voyage we there gave in a few words; we will now proceed with its leading features.

On departing for Batavia from Sydney, the passage to the south of Australia was adopted, but finally relinquished, in consequence of adverse winds, and perhaps the qualities of a merchant ship ill adapting her for turning to windward. It was determined, therefore, to bear up for the passage by Torres Strait. A few days afterwards the Eastern Fields were descried right ahead, and the ship entered the "sea bestrewed with coral reefs and sand-banks," a short distance to the northward of Murray's Island. We have here the first proofs of Dr. Wilson's expertness in observations; he obtains his latitude by stars in abundance, and corrects his chronometer by the well-known position of reefs, without considering them (as he justly observes others would have done) as new discoveries. But notwithstanding all his care in the navigation of the ship by night and day observation, and a good look-out from the foreyard, as she pursued her perilous course, and guided by the colour of the water, had passed many reefs in safety, she "struck with such force on a small detached coral reef, that the rock penetrated instantly through her bottom. There was no occasion for sounding the bell, the encroaching water being in a few minutes up to the lower deck, affording a melancholy proof of the extensive and irremediable damage the ship had sustained." The boats, as the best means of securing the safety of all, were now resorted to, and it was resolved to equip them as well as circumstances would permit, and to make the best of the way in them to Melville Island or Coupang in the island of Timor, a distance of more than a thousand miles. Happily the boats were capable of containing the crew and some passengers, although the long-boat was not in the best state of repair; but after some difficulty in keeping the men from getting at the spirit casks, the boats were provided with the necessary provisions and water, nautical instruments and books, and other necessary articles, which in times of such difficulty and danger as they were about to encounter would be useful, and with nineteen in the long-boat, twelve in the skiff, and eight in the jolly-boat, as it was considered dangerous to stay in the ship all night, they quitted her on their perilous voyage "just as the sun, emblematic of her fate, had sunk in the western wave."

It was deemed prudent to lie by the ship during the night, and accordingly the boats were secured to each other and made fast to her, one of the party being ready to cut away in case she should slip off the rock on which she hung and sink in deep water. The long-boat leaked much, but "*it was hoped*" she would *take up* before the morning. Our readers (not nautical) have heard of a tub being dry and leaky from want of use, and becoming tight, or "taking up," when saturated with water. However, while this process was going forward with respect to the boat, Dr. Wilson gives us the following reflections. "Being now in a state of inaction, we had time to reflect on our altered situation. A few hours ago we were in the enjoyment of every comfort compatible with a seafaring life—a justly grounded prospect of an agreeable and prosperous voyage, and at no distant period a happy meeting with our friends in our native land; now our only hope of personal safety depended on a leaky boat, necessarily overloaded, an intricate and dangerous navigation around us, many hundred miles distant from the nearest abode of civilized man. Our misfortunes however pressed less heavily, in consequence of there being no females to share them."

It is not difficult after the foregoing to estimate the full force of what follows. "To others, differently situated, the night might have appeared exceedingly beautiful, as the moon and her starry train shone with that splendour peculiar to the torrid zone; but to us it was long and dreary, and we hailed with delight the first appearance of dawning day."



On the following morning the boats left the ship, and steered for Halfway Island. Their arrival and proceedings are thus related.—

"About eleven o'clock, A.M., we reached the island, and our first care was to spread out the biscuit to dry; those who were in the other boats followed our example, although some thoughtless youngsters, being about to amuse themselves, as if on a party of pleasure, had to be reminded of their duty. As our mast, the top-gallant studding-sail boom, had already been sprung, it was *fished* with an oar, and our boat was fitted, in a temporary way, with a tarpawling bulwark.

"In the meantime the cook was busy in the exercise of his vocation; a fire was kindled, and a pig (two having found their way into the boat) was killed and dressed (for dinner, to which we assembled, with keen appetites, in a romantic spot, shaded from the sun by the luxuriant foliage of a natural grove. The resemblance, in some respects, to a pic-nic party, tended to exhilarate our spirits; and the sailors, who in general have much repugnance to alloy present enjoyment by any cares about the future, were quite happy and jocose.

"Dinner being finished, we prepared to renew our journey. In case of accidental separation, a week's provisions were issued to the skiff and jolly-boat, and it was judged prudent to divide at once the brandy equally to the boats, according to the number of persons in each. To do this equitably, it behoved us to collect all that might be in the other boats, for we had only a very small quantity in the long-boat, in consequence of the unaccountable disappearance of a five-gallon keg full.

"A good deal of ill humour was manifested by the officer in charge of one of the boats, when requested to increase the general stock, by the production of a considerable quantity which he had snugly stowed away for particular service. He was very reluctant to give it up, insisting that, *de jure*, it was his own property. However that might be, it was, *ex necessitate rei*, added to the common stock, which was then divided, with strict impartiality, as were also a few bottles of wine and porter, which had been placed in our boat by the steward. The biscuit, being now dry, was put into bags, and protected as much as possible from future damage, by being covered with tarpawling. Every thing being placed in the boats, about six P.M. we left this islet."

The course was now shaped for Wednesday Island, and after a narrow escape from getting on a reef in the night, as well as much perplexity to discover their situation, Doctor Wilson succeeded in getting a noon observation, which convinced him that the land under their lee that gave them some uneasiness was Banks' Island. But a group of islands to the westward was not to be accounted for, and, disappointed in their hopes of reaching Booby Island, the adventurers threaded their way through a labyrinth of reefs, and in the evening of the third day from leaving the ship landed on the centre island of the group, which consisted of fourteen.

Another respite from their fatigue was afforded here—water was found, which, as they had been on short allowance, was most welcome. An encampment was formed, and all was cheerfulness and gaiety. Dr. Wilson here says, "The cook having got his utensils on shore, soon provided us with boiling water, and we enjoyed our tea, not feeling the want of sugar, which the salt water had completely destroyed. Being all fatigued, and inclined to sleep, we made preparations to retire to rest. Directions were given to keep the boats afloat, and arrangements were entered into to guard against the possible consequences of sudden surprise; and also to receive, in a friendly way, any of the natives who, from curiosity, or from any other cause, might pay us a visit during our slumbers. Captain Young and myself chose a spot, protected from the night-wind by a large block of granite, and within a short



distance of high-water-mark, where—our bed the sand—our canopy the sky—we were soon lulled asleep by the soothing sound of the hollow breeze, and the mournful melody of the murmuring sea."

On the next day the long-boat was discovered to be in a bad plight, too bad, indeed, to be meddled with by the carpenter, but being chintzed with oakum, covered with tallow, and patched up with canvass, she was made seaworthy. In fact, business was going forward. Dr. Wilson says, "The sail-makers were directed to convert the fore-royal into a lug-sail, and to make a jib from some spare canvass, that we might be enabled to make progress on a wind. The remainder of the crew were employed variously; some were picking bread, others filling water, some gathering oysters, and others cruising about, in search of adventures, or amusing themselves with the loquacious prattle of a favourite cockatoo, which had been, by general consent, permitted to accompany us."

Nor were observations of the sun neglected, and ample care was taken to determine correctly the position of these islands, which appear hitherto to have eluded even the chart-makers themselves. In the course of the day all arrangements had been completed, the long-boat was afloat, and leaked very little, and every thing was in readiness to resume the voyage the next morning. The preparatory address of the Captain, and the proceedings down to their departure, are thus alluded to by the Doctor:—

"In the evening we re-assembled, when a short address was made to the sailors, explanatory of our projected future proceedings. The dangers, that might reasonably be expected to befall us during the way, were pointed out, and also the means of averting or combating them successfully; the sailors were complimented on their hitherto general good conduct, which it was hoped would continue to merit praise, as influencing materially the favourable issue of our enterprise.

"The scene was impressive and picturesque;—the numerous blazing fires, which the sailors had for pastime kindled along the shore, completely illumined the small bay in which the boats, all ready for departure, were now floating, and threw a lurid glare on the hardy weather-worn countenances of the assembled group, who were ever and anon reminded of their unenviable situation, by a sudden blast of the breeze, or a sullen threatening roar of the ruthless sea. Place, time, and circumstances, thus conspiring to excite and cherish gloomy ideas, those who looked beyond the present moment could not avoid being somewhat depressed, in spite of every effort to be, as well as to appear, cheerful and unconcerned.

"Watches were placed in situations commanding a good look out, with directions how to act, should any strangers make their appearance during the night,—precautionary measures to prevent surprise, being now rendered doubly necessary; as it was reasonable to suppose, that the natives, (distinct and recent traces of whom had been observed during the day,) might be attracted to the spot by the fires, which were blazing in all directions around us. After these arrangements we severally betook ourselves to rest.

"The spot where the Captain and myself slept last night, had been, by the care of some of our comrades, converted into a very pretty bower,—branches of trees being interwoven on the east and west sides of the rock, the ensign spread over the top, soft twigs strewed on the sand, and the whole ornamented with various flowers. We were pleased with this spontaneous attention, and slept soundly till about two o'clock in the morning, when we got up, for the purpose of making some observations, with a view to determine the longitude; the distance between "Jupiter" and the Moon's remote, and between "Fomalhaut" and her near limb, were measured carefully several times; and the



observations thus made being reserved for calculation, when time and place might be more convenient, the observers resumed their repose till the dawn of day.

"As soon as daylight appeared, preparations were made for our departure; before embarking, I recommended, both by precept and example, a long swim,—to exercise and fatigue the limbs, now about to be cramped and confined for some time. We also thought it not amiss to take a good breakfast, which the cooks, who had been early at work, had prepared for us. This being finished, every utensil capable of containing water was filled therewith; and all being properly arranged in the boats, about six o'clock, A.M., of the 22d of May, we left the island, not without regret, yet pleased that we should no longer be annoyed with reefs and sand-banks. Not wishing to run the risk of finding a clear passage between any of the islands, we steered to the northward of the group,\* and then directed our course W. by S. across the gulf of Carpentaria."

Every one has heard of the extraordinary voyage of the *Bounty's* launch. She passed over the same sea as the three boats of the *Governor Ready* were now navigating. Sunday came, and was thus passed.—"In the forenoon, conformably to usual custom, we joined in the performance of Divine service; but in the present instance we did not adhere to the prescribed forms, having judged it preferable to select such Psalms, and other portions of Scripture, as were more immediately applicable to persons in our situation; and it may readily be believed that our devotion was fervent and sincere. Indeed, our lives depended on so frail a tenure, that there was no difficulty in abstracting our thoughts from all worldly affairs; and the contemplation of the sea and sky tended to inspire us with a faint conception of that Almighty Power by whose fiat they sprang into existence?—It was by no means an uninteresting scene, to behold three small boats in the wide ocean, crowded with human beings, apparently at the dubious mercy of the winds and waves, offering up their prayers and supplications to Him, "who is the confidence of the ends of all the earth, and of them that are afar off upon the sea."

But in the following day the weather became boisterous, and anxiety was felt for those in the skiff and jolly boat; the sea had become formidable as the wind increased, and those in the jolly-boat were, after due consideration, admitted into the long-boat, the skiff having been lost sight of.

With this additional burthen, Dr. Wilson observes, "It now behoved us to be most attentive to the steerage; as the neglect of a moment might prove our ruin. We kept W. by S. for Melville Island, but our hopes of reaching it were very slender. By great vigilance, we managed to elude the encroachments of the waves, till about nine, P. M., when a heavy sea, whose death-denoting sound still lingers in my ears, rolled over the larboard quarter, and filled the boat! For a moment we were paralysed, believing that we were going down, without the most distant hope of any one of us being saved. Finding, however, that the boat still floated, we took heart, baled away, and threw every article of no essential importance overboard.

\* "This group consists of fourteen small islands: the largest not being more than three miles in length, and about one and a half in breadth. The island at which we stopped was of considerable height. The trees were of stunted growth; the grass was luxuriant, and the water in abundance. On the (granite) pinnacle of the island, we observed an immense collection of stones, resembling a *cairn*; and as we imagined it served the same purpose, we did not fail to increase the heap by a liberal contribution. High water occurs at about 2h. 30m. after the Moon's culmination, and the tide rises from eight to ten feet. The latitude, as already observed, is 10° 13' 27" south, and the longitude, by lunar observations, and by chronometer corrected from the Eastern Fields, is 141° 56' 36" east. Neither Captain Flinders nor Captain King went so far north, and therefore did not notice these islands; which, in compliment to the Hon. Capt. Duncan, R.N., we named Duncan's Isles.



"The sea had upset the compass, extinguished the light, and rendered it impossible for us to obtain another; yet we managed (although the task was difficult) to keep the boat right before the wind. Just as we had got her baled out, she was again filled by another wave. We now determined to hazard the dangerous experiment of taking in the mainsail; this being effected, and the reefed-jib set, we could do no more than quietly submit to the will of Him who 'rides in the whirlwind, and directs the storm.'"

This had the effect of relieving the boat, as not a spray broke over her afterwards, and they pursued their weary course for Melville Island, the boat riding safely over the highest waves. The next day, however, it was discovered that they had run past Melville Island; and as to beat back any distance was impossible, the course was directed for Timor. This gave the party more concern, as the skiff had been lost sight of; but as she was known to be a good boat, and not overladen, well-founded hopes were entertained of her safety.

Having run 150 miles in the course of the next twenty-four hours, in a heavy sea, amidst squalls accompanied with thunder, lightning, and rain, about six in the evening of the first of June, the land of Timor was discovered, on which Dr. Wilson observes, "To say that this event caused universal joy, would convey but a faint idea of the feelings that pervaded every bosom;" and all sail was made in the hopes of reaching Coupang before dark. But they were disappointed, and it was not until the following morning that they entered the Strait of Semaou. A brig was perceived working out of the bay of Coupang.—"Various were the conjectures," says Dr. Wilson, "as to what she was, and whither bound; some thinking her an American, some an Arab, and others a Dutchman. After a little discussion, we edged away for her, exhibiting our ensign as conspicuously as we could. Some time elapsed before she took any notice of us, and we began to think that it was not her intention to do so; but, at length, she stood towards us, and displayed her colours, which, with much emotion, we discovered to be those of our native land."

However, the worthy Doctor found an old friend on board her, in the employment of Government; and as the brig, which proved to be the "Amity," was bound to Melville Island, he determined on accompanying him in her, and parted from his companions in the long-boat, which had conveyed them all in safety a distance of more than thirteen hundred miles in the space of less than fifteen days. We have here a tolerable proof of the necessity of every vessel having boats sufficient to carry her crew. Had not the Governor Ready been provided in this respect, it is more than probable that no one would have been saved.

Let those who complain of the confinement of a ship, conceive the author's feelings when he says, "It is impossible for any person, not having undergone the same confinement, to imagine the pleasure derived from being able to stretch the limbs, even on a brig's deck;"—such creatures are we of circumstances, and so completely do all our enjoyments depend on comparison for their real value.

Bad weather coming on, and the Amity proving leaky, determined her captain to return to Coupang harbour immediately, which gave Dr. Wilson an opportunity of seeing his companions in adversity once more, and shortly after the satisfaction of witnessing the safe arrival of the skiff, after having encountered her share of peril and danger. But we have arrived at our limits, and have as yet accompanied the author through the first pages only of his work. It is one, however, not to be parted with easily; and we shall leave the worthy Doctor at Coupang until our next, and close our present notice with a well-merited tribute to Captain Young, the commander of the Governor Ready.—



Not only was he free from all blame in the loss of the vessel, but the respect entertained for him by the crew was mainly instrumental in saving their lives. He took his share in the astronomical observations at all times; and Dr. Wilson bears the testimony, that he "paid uncommon attention to the navigation of the ship, far more so, indeed, than is usual with the generality of masters of merchant vessels."

**SERVICE AFLOAT, OR THE OFFICER'S MANUAL.** For every grade employed in H. M. ships, from the Volunteer of the First Class to the Captain of the Fleet. By CAPTAIN WILLIAM GLASCOCK, R.N. Saunders and Otley. Price £1. 1s.

VERILY the rising generation of our naval officers should be expert tacticians. While distant from their native land, they are picking up their professional knowledge in the wide field of the ocean, and daily accumulating their store from the observation of passing events at sea; here are little volumes awaiting their return to port, rich in nautic lore, enabling them to compare their own with the experience of those who have gone before them, and on the proper method of performing their numerous and difficult duties, offering them facts well worth their knowing. But it is easy to foretell that some for whom this work is intended will be satisfied if they never see it—that others will lay it aside, contented with what they may already know without its assistance—and that others, who may be well versed in most of the subjects it treats on, will, nevertheless, read it with avidity, and, not above taking a hint from any experienced officer, on points of a profession in which there is so much diversity of opinion as that of the sea, will carefully examine its contents. But there are still others, to whom this work will be invaluable. We allude to those who are entering the naval service. To the boy from school, who, placed on the quarter-deck, has to imbibe the rules of his profession from example and precept, it will be a most desirable acquisition, laying before him, as it does, not only the leading points of his own duties, but those of every officer about him. Assuredly Capt. Glascock deserves well of the profession he has thus befriended; to say nothing of the immense labour of the task, the extent of knowledge necessary to its performance, the difficulty arising from different opinions that lay in his way, and in defining the duties of the senior officers of his profession;—in spite of these obstacles, he has produced a most important work, and the only one of its kind that we have yet met with. We have at present no space to discuss some of the subjects on which it treats, and which, for "auld lang syne," we are well inclined to do, as far as a hasty glance would enable us; not that we are disposed to quarrel with either the "Practical Hints" or the "General Directions," which the gallant author has given so plentifully, although we could wish occasionally to have seen them extended. In some former numbers of the Nautical Magazine we have taken upon ourselves to give some of the latter to lads going to sea, and to which we can still refer them with feelings of satisfaction, and with equal satisfaction can we refer them for the former to the "Officer's Manual." But we shall take a future opportunity of introducing to our readers some extracts from this work, assuring them in the mean time that as it embraces the various duties of every executive officer in H. M. ships, it has peculiar claims to their notice, and that, although intended for the officers of the naval profession, the practical hints in it are no less worthy the attention of those of the merchant service.



## COURTS MARTIAL.

A court assembled on board H.M.S. Victory, on Tuesday, the 22d of Sept., to try Lieutenant Thomas Pownal Pelly Barrow, for disrespectful conduct towards commander Meredith, on board H.M.S. Pelorus. Sir F. L. Maitland, K.C.B. President; capt. Fitzclarence, Vidal, Williams, Hastings, John Hoskins, esq. deputy judge-advocate.

The evidence for the defence being concluded, the court retired to deliberate; and on its re-opening, delivered the following sentence:—

The court was of opinion that the charges against the said Lieut. T. P. P. Barrow had not been proved, and did acquit him of the same.

[On Mr. Barrow's return to his ship, the seamen received him with three hearty cheers. When a strict disciplinarian, as Mr. Barrow is proved to be, is a favourite with the seamen, it seems conclusive proof that he must be a good officer.]

*The following is from the Hampshire Telegraph:—*

We intended it to be fully understood that the Admiralty Board desired, in an official form, that their approbation should be expressed to the Captain, Officers, and Crew of the Pique, for their exertion and seamen-like conduct, in conducting that ship across the wide Atlantic. From circumstances, however, we fear that it is not so generally understood—we therefore give the letter of Admiral Sir Thomas Williams to the Hon. Capt. Rous, on that occasion:—

*Britannia, Portsmouth Harbour, 3rd Nov., 1835.*

"SIR,—On the paying off of the Pique, the Lords Commissioners of the Admiralty are desirous of expressing their approbation of the conduct of yourself, and the officers and crew under your command, in extricating the Pique from the perilous situation she was in, when on shore on the coast of Labrador, and on her subsequent voyage home, under circumstances of great difficulty, and such as required skill and exertions of no ordinary kind; and you will, therefore, receive and communicate their Lordships' sentiments to the officers and crew of his Majesty's ship Pique, under your command, accordingly.

"I am, Sir, your humble servant,

THOMAS WILLIAMS, Admiral.

(Signed)  
"Captain, the Hon. Henry John Rous,  
His Majesty's ship Pique."

A Court of Inquiry has been held at Sheerness to ascertain the circumstances under which his Majesty's frigate Cleopatra, the Hon. Capt. George Grey went on shore, and remained for several hours, upon a point of land near the isle of Lesso, in the Baltic, while conveying the lady of lord Durham, the British ambassador, to the Russian court.—After an investigation, which lasted from nine in the morning until the same hour at night, capt. Grey, his officers, and ship's company were fully acquitted.

## H. M. S. PIQUE.

The following letter from Capt. Rous, to the Secretary of the Admiralty, was read at the Court Martial, held at Portsmouth, of which we recently gave the result:—

*H.M.S. Pique, 13th Oct. 1835.*

SIR,—I beg you will acquaint my Lords Commissioners of the Admiralty, that I left Quebec on the 17th September, with Lord and Lady Aylmer and suite on board. On the 21st, off Anticosti, wind southerly, I bore up for the Belle Isle Passage, and being close in with St. John's Head, Newfoundland, at 6 h. 30 m. P. M. on the 22nd, I stood over to the Labrador side, to avoid the



low shore and Islands, on the opposite coast. At 10 h. P. M., the weather getting foggy, wind moderate at west; shortened sail, and steered a channel course E. by N. At 10 h. 20 m., whilst the officer of the watch was in the act of reefing topsails, the Master and myself looking out, breakers were reported under the bows; put the helm hard a port, the ship immediately struck, and hung; clewed up every thing, and the ship swung with her head to the northward; made sail again, and hove all aback; she sailed off, but the tide catching her, wedged her in between two rocks; furled sails, and sent the Master to sound; down royal and top-gallant yards and masts, the ship striking heavily.

The Master reported four and a half and five fathoms round the ship, excepting a rock with three fathoms under the larboard main-chains, and seventeen feet abreast the starboard chess-tree, deep water outside; the weather being thick and rainy, we could only discover a low rocky ledge, extending about fifty fathoms E.  $\frac{1}{4}$  S. parallel to the ship, distant about sixty yards; out all boats, laid out the stream E.S.E., and hove a heavy strain. The ebb-tide made about eleven o'clock; employed starting water, heaving shot and guns overboard, and pumping ship. At two A.M. wind freshened from W.S.W., boats were obliged to lay under her larboard fore-chains for shelter; frigate striking very heavily, and the masts threatening to fall at every blow.

On the flood-tide again making, laid out a kedge S.E. by S., and warped out the launch, carrying a bower anchor, with the cutters and jolly-boat buoying up a 100 fathom cable, hove a taught strain. 7 h. 30 m. wind shifted to W.N.W. a point off the land; set the foresail, bracing forward the head yards; 8 h. piped to breakfast; 8 h. 15 m. the ship forged ahead a few feet, set the fore-top sail, and heaving alternately heavy strains, and the ship's company running forward on the bowsprit, at 9 h. 13 m. she wormed herself out from her bed of rocks, and ran into Ance au Loup bay, and anchored, frigate making 13 inches water per hour. This misfortune was owing to the flood-tide setting us to the N.W. as we stood over to the N.E. from the coast of Newfoundland. The following morning we were under all sail for England. The leak increased gradually until the 26th September, viz. to 23 inches per hour. On the 27th, lost our rudder, in lat.  $50^{\circ} 10'$ , long.  $40^{\circ} 6'$ . Sept. 28th, shipped a temporary rudder, which was carried away by a heavy sea on the 29th. Sept. 30th, not being able to wear ship, in a heavy gale from the northward, we were obliged to heave to, with our head to the W., ship labouring very much, and the foremast working in the step, got top-gallant masts on deck, cut away best bower anchor, and cleared out every thing from the fore part of the ship. On the 1st of October, fell in with the French brig Suffren, of St. Maloes, who offered us every assistance in her power; sent by her the particulars of our situation, lat.  $48^{\circ} 48'$ , long.  $30^{\circ} 20'$ . October 4th, the carpenter successfully stopped up a leak in her fore foot, and mended one of the chain-pumps, which had worn through. On the 6th, rigged a Pakenham rudder, being the first fine day we had experienced; a heavy sea carried away this rudder on the 10th, and we again broached to in a heavy N.W. gale, with our head to the S.W.; on the 11th it moderated, wore round. At 8 P. M. on the 12th, was obliged to anchor in 41 fathoms, to the westward of the Caskets, not being able to weather them, with a northerly wind; and at 2 P. M. yesterday, got under way, and anchored at S. Helen's at 4 o'clock A. M. this day, having run 1500 miles without any rudder, and the ship requiring to be pumped every hour. I have great pleasure in recommending to their Lordships' notice the gallant and steady conduct of every officer, seaman, and marine, under all these trying circumstances; it is not in my power to do justice to their merits; and I am happy to add, that no loss of life, or serious injury, has befallen any one. I have, &c.

To Charles Wood, Esq. &c.

H. J. ROUS, Captain.



The Pique was taken into dock on 20th Oct.; and the crowds of people who have since visited the yard, to inspect her bottom, have been astonishing. She has lost her false keel entirely, and, upon an average, eight inches of her keel are gone, fore and aft. The most considerable damage, however, is forward, her stem and fore-foot being completely gone, leaving the apron and stemson exposed; and the planking forward, where it is rabbeted into the solid stem, is left wholly unsupported; close to the keel, on the larboard side, just abaft the foremast, is a terrific place, of about 13 feet in circumference, where she must have ground against a rock, the centre of which has rubbed through the planking, and within two inches of the inner side of the floor timbers. About 15 feet further aft, is another place nearly the same size, but not so deep, also close to the keel. A third place has the most awful appearance; it is under the bread-room, and in the forepart of the dead wood. The ship must have had her keel upon a rock, and have hung as it were, upon a pivot, for it is nearly circular, and of a cone-like shape, about 16 feet in circumference, and hollowed out to the height of about three feet from the outer surface of the false keel. There was no damage on the starboard side, except a little ruffling of the copper. The decks do not appear to have been strained, and we cannot understand that her iron knees have at all loosened. She will take about two months to repair; in the mean time she will be paid off, orders having been received to that effect, and she will most probably be then again commissioned.

We should not omit to mention, that two of capt. Lihou's patent rudder pintles were left in the gudgeons when the rudder was carried away, a small twist in each having prevented them from dropping out, which they ought to have done.—*Hunts. Tel.*

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*To the Editor of the Nautical Magazine.*

SIR,—Having frequently found the advantage of using the following method of preserving milk, I forward it to you for the benefit of your readers,

And am, Sir, your obedient servant,

A KITCHENER AFLOAT.

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RECEIPT FOR PRESERVING MILK.—Fifteen pints of fresh good milk, after being heated to 113° of Fahrenheit, are to be poured into an earthen vessel, to which add gradually diluted muriatic acid, until the milk curdles; (the ordinary quantity of strong acid I have found to be an ounce and a half, although much will depend on its actual strength.) When the cheese is fully formed, the whey is to be separated, and the curd collected: this is best done by putting the whey through a hair sieve. The cheese then should be squeezed in a linen cloth, until the mass becomes tolerably dry: this is to be put into scales, and an equal weight of pounded sugar set apart. The curd should then be put into an earthen vessel, (I have generally used a two-quart jug,) when half an ounce of purified subcarbonate of soda, powdered, is to be well mixed up with it; after which, place the jug in a vessel containing warm water, which must be kept to near the boiling point.

In a short time the curd is observed gradually to dissolve, being repeatedly stirred by a wooden rod, and the heat continued, until it becomes a smooth homogeneous fluid, running off the stick, and resembling rich cream. This is the most particular part of the process, and must be well and closely attended to.—When it is brought to the state desired, the pounded sugar is to be gradually stirred in, when the whole becomes tolerably fluid, but the heat must be continued until a smooth syrup is formed. You may then pour it into



bottles with rather wide mouths, so as to admit a tea-spoon; but, to prevent breakage, they had better be previously put into warm water, so that they may expand equally.

When the syrup is cold, it will be found to have sunk somewhat in the bottles; they may be filled from the contents of one of their number, after which they may be corked.—I have tested it so far, that I have allowed a small quantity to remain exposed for two months; when examined, the fluid part had evaporated, and the residue appeared like candied sugar; by adding water, milk was speedily produced. The bottle may be kept open for successive days, until its contents are finished.—A large tea-spoon-full is sufficient for a cup, but remember your tea will be partly sweetened by it.

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**NEW LIGHTHOUSE ON CAPE COAST CASTLE.**—A stationary light has been established at Port William, Cape Coast Castle, 204 feet above the level of the sea: further particulars of which will be found in our next number.

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**LOSS OF THE BELISSIMA.**—A letter from the British Consul at Brest, dated the 29th ult., noticing the loss of the *Belissima*, of London, on the island of Saints, on the 18th of that month, shews an instance of courage, humanity, and honesty, on the part of the poor inhabitants, deserving record, and worthy of example. Every article saved from the wreck was immediately given to the Commissary of Marines; and a case, containing plate and jewels, subsequently found, was immediately taken to the rector, and by him similarly forwarded. The inhabitants of this island, living in miserable hovels, covered with seaweed, (their only article of fuel,) and kept from starvation by small grants of damaged biscuit from the marine, have exhibited a probity seldom shewn in similar cases. The following, addressed by the master, mate, crew, and passengers of the wrecked vessel, to the British Consul, gives the full particulars of the case:—

“Brest, Sept. 28th.

“Sir,—We, the master, mate, crew, and passengers of the brig *Belissima*, lost on the island of Saints, on the morning of the 18th, have the honour to address you as the representative of our nation, to request you will convey to the rector of the island, and the three inhabitants whose names we have since learned to be Mons. Charles, rector, Jacques and Noel Miller, married men, and Pierre Michel Guelcher, bachelor, our most sincere and heartfelt expressions of gratitude for the courage and humanity displayed by them.

“At seven in the morning, the brig struck on a rock, and almost instantaneously the forepart went to pieces. We took refuge in the after-rigging, but the mast giving way, were driven to the stern, which soon separated, and drifted farther among the rocks. Lashed to the wreck, the sea constantly rolling over us, we were in a dreadful position, and despaired of being saved. Towards nine o'clock, we saw lights on the shore, borne by the above-mentioned four persons, who, hearing our cries, hastened to our assistance. These brave men, the rector in front, formed a link by fastening one to another, and attempted to get near the wreck, up to their necks in the sea, frequently driven back and dashed by the waves against the rocks. They continued to endeavour to get near us, but did not succeed till past twelve. Worn out by fatigue and cold, we lowered one by one into their arms, and were drawn to the shore by these good people, over rocks which few of us from fatigue could have reached without their assistance.

“It is but justice to add, that the whole of the inhabitants flocked to our



succour as soon as they heard of the wreck ; but none distinguished themselves so much as the four above mentioned.

"We also request you will return our most hearty thanks to all the islanders, who, notwithstanding their poverty, shared their beds and miserable pittance with us.

"We beg you will not forget likewise to thank the Commissary of Audierne, who, on hearing of the wreck, came to the island. His attentions and exertions contributed mainly to the saving of part of the cargo and wreck of the vessel. His kindness could not be exceeded, both on the island and at Audierne, where he took and kept us until he delivered us into your hands.

"We also request of you to accept our thanks for your prompt attendance, kindness, and assistance to us.

"Signed by the Captain, Passengers, and Six Seamen."

"To A. Perrier, Esq., British Consul, Brest."

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PROPOSAL FOR A GRAND PILLAR AND STATUE TO BE ERECTED TO HIS  
MAJESTY KING WILLIAM THE FOURTH.

THE following paper has been handed to us, and, as we hope hereafter to exult in its success, we seize the earliest opportunity of laying it before our readers.

"The hill on the top of Greenwich Park is most respectfully suggested as an admirable site for a Pillar and Statue to be erected to His most gracious Majesty, King William the Fourth. It should be built on a scale of height and grandeur not surpassed by any thing of the kind in Europe.

"To the nobility and gentry, to the clergy, to the officers of the navy in particular, as well as to those of the army, to the merchants, the seamen, and, in short, to all classes of His Majesty's subjects in this highly favoured and great commercial country, it cannot fail to be an object of interest and gratification to see such a Monument of loyalty and affection raised to their beloved Sovereign, who was himself brought up in the naval service, and who, after having passed through all the grades of that service, filled the important office of Lord High Admiral, before ascending the throne.

"For the erection of such a Monument of attachment to a good and naval King of this great maritime country, no situation can be so appropriate as Greenwich Park ; where the statue, facing the river Thames, (that general conflux for the ships and merchandise of the whole world,) surveying, as it were, the Royal Arsenal, Dock Yards, and other establishments on its banks, and directing a hand to Greenwich Hospital and its School ;—the former, that royal retreat and resting-place for those brave and fearless men by whose valour Great Britain's glorious King reigns also the undisputed and envied Sovereign of the sea ;—the latter, where the sons of naval officers, and of seamen and marines, are gratuitously educated, and carefully instructed to support the high character of British officers and seamen, and maintain that dominion over the ocean which their forefathers have so bravely won.

"Longitude might be henceforth reckoned from King William the Fourth's Pillar, which will of course be perpetuated to the end of time. It will be seen from the Metropolis, many miles down the river, from the high road to Dover, and from a vast extent of country all round ; and will become far more celebrated than Pompey's Pillar or Cleopatra's Needle."

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Extracts from a Report of the Proceedings of the British Association at  
Dublin, as given in the Comic Annual :—

"Dr. Hoaxum read an interesting paper on the conversion of moon-beams into substance, and rendering shadows permanent, both of which he had



recently exemplified in the establishment of some public companies, whose prospectuses he laid upon the table.—Mr. Babble produced his calculating machine, and its wonderful powers were tested in many ways by the audience. It supplied to Captain Sir John North an accurate computation of the distance between a quarto volume and a cheesemonger's shop! and solved a curious question as to the decimal proportions of cunning and credulity, which, worked by the rule of allegation, would produce a product of 10,000!!

"The Rev. Mr. Groper exhibited the skin of a toad, which he discovered alive in a mass of sandstone. The animal was found engaged on its autobiography, and died of fright, on having its house so suddenly broken into, being probably of a nervous habit, from passing so much time alone. Some extracts from its memoir were read, and found exceedingly interesting. Its thoughts on the 'silent system' of prison discipline, though written in the dark, strictly agreed with those of our most *enlightened* political economists.

"Captain North exhibited some shavings of the real Pole, and a small bottle which, he asserted, contained scintillations of the Aurora Borealis, from which he stated he had succeeded in extracting pure gold. He announced that his nephew was preparing for a course of similar experiments, of which he expected to know the result in October. The gallant captain then favoured the company with a dissertation on phrenology, of which, he said, he had been a believer for thirty years. He stated, that he had made many valuable verifications of that science on the skulls of the Esquimaux; and that, in his recent tour in quest of subscribers to his book, his great success had been mainly attributable to his phrenological skill; for that, whenever he had an opportunity of feeling for soft places in the heads of the public, he knew in a moment whether he should get a customer or not. He said, that whether in the examination of ships' heads, or sheep's heads—in the choice of horses, or housemaids—he had found the science of pre-eminent utility."

**RAILROADS.**—The Greenwich Railroad is to be continued to Croydon by one company, and thence by Dorking, Horsham, and Shoreham, to Brighton. The capital of the company for the former continuation is 140,000*l.*, and for the latter 900,000*l.* A line from London to Blackwall is proposed. A line to connect Leeds and Sheffield with London requires a capital of 1,250,000*l.* A line to Northwich, and thence to York, is in act; another line to York from Whitechapel by Dunmow, to Cambridge, Lincoln, Sleaford, Selby, and York. Another proposal is to omit York, and take the line from Leeds, by way of Wakefield, Rotherham, and Chesterfield, to Derby, there to join the Midland Counties Railway, which is projected from Derby by way of Leicester, to join the London and Birmingham Railway at Rugby. With regard to the former of these northern projects, we learn that the expense would be from York to Selby, 145,000*l.*; from Selby to Cambridge, 1,495,000*l.*; and from Cambridge to London 890,000*l.*: the expense of power, 300,000*l.* The whole might be finished in four years, if the amount can be raised in shares of 100*l.* each. The Stockton and Darlington Railway has trebled the number of its passengers this year. The Great Western Railway is proceeding. Several hundred persons have already found employment between London and Reading, and Bath and Bristol. The number of applicants for the 5,000 reserved shares, on the day of allotment, last week, amounted to 14,308, in consequence of which, premiums of from 1*l.* to 8*l.* have been obtained. A line from Gloucester to Birmingham is likely to be commenced. The line, we believe, will pass near Cheltenham and Tewkesbury, within two miles east of Worcester, and one of Droitwich. The estimated price is 750,000*l.* One week last month nearly 15,000 passengers travelled between Liverpool and Manchester on the railroad. A railway between Dundee and Perth is already more than a speculation.—*Lon. Paper.*



## Naval Register.

[For the names of the various Captains and Commanders, see former numbers.]

THE ROYAL NAVY IN COMMISSION—OCTOBER 21ST, 1835.

### At Home.

#### PORTSMOUTH.

Admiral, Sir Thomas Williams, G.C.B.—*Flag-Ship*, BRITANNIA, 120.

#### PLYMOUTH.

Admiral, Sir William Hargood, G.C.B., G.C.H.—*Flag-Ship*, ROYAL ADELAIDE, 104.

#### NORE.

Vice-Admiral, Hon. C. E. Fleeming.—*Flag-Ship*, HOWE, 120.

ASTREA—Falmouth.  
BRITANNIA, 120—Portsmouth.  
CLEOPATRA, 26—30th Oct. arrived at Sheerness. Docked.  
EXCELLENT, late BOYNE—Portsmouth, for the practice of naval gunnery.  
HOWE 120—Sheerness.  
NIMROD—Plymouth, fitting.  
OCEAN, 80—Sheerness.  
PIKE, 12—Was spoken with on the 23d July off Cape Finisterre, by H.M. steamer African.

PORTSMOUTH, *Yacht*—Portsmouth.  
PRINCE REGENT *Yacht*—Deptford.  
QUAIL—Portsmouth station.  
RODNEY, 92—Plymouth, fitting. 18th Nov. moved into the Sound.  
ROYAL GEORGE *Yacht*—Portsmouth.  
ROYAL SOVEREIGN *Yacht*—Pembroke.  
ROYAL ADELAIDE, 104—Plymouth.  
SEAFLOWER, *Cutter*, 4—Portsmouth station.  
SPEEDY, *Cutter*—Portsmouth station.  
WILLIAM & MARY, *Yacht*—Woolwich.

### Abroad.

#### LISBON STATION.

Rear-Admiral, W. H. Gage.—*Flag-Ship*, HASTINGS, 74.

CAMELEON, 10—16th Oct. arrived at Lisbon from Oporto.  
CASTOR, 36—30th Sept. at St. Andero.  
CLIO, 16—23d Oct. arrived at Lisbon from Gambia.  
HASTINGS, 74—In the Tagus 13th Oct.  
NIMROD, 20—10th July north coast of Spain.  
MAGICIENNE, 26—23d Oct. in the Tagus.  
PEARL, 20—2d Nov. in dock at Devonport.  
PHŒNIX—St. V.—North coast of Spain. 3d Oct. left Portsmouth.

RINGDOVE, 16—Oct. north coast of Spain.  
ROYALIST, 10—Oct. north coast of Spain.  
RUSSELL, 74—11th Oct. arr. at Lisbon from Corunna.  
SABACEN, 10—Oct. north coast of Spain.  
STAG, 46—24th Oct. arr. at Lisbon from the Gambia.  
TWEED, 20—23d Oct. in the Tagus.  
VIPER, 6—11th Oct. arr. at Lisbon from Corunna.  
WATERWITCH, 10—12th Nov. arrived at Plymouth.

#### MEDITERRANEAN STATION.

Vice-Admiral, Sir Josias Rowley, Bart., G.C.B.—*Flag-Ship*, CALEDONIA, 120.

ALBAN, St. V.—10th Sept. left Constantinople for Corfu.  
BARHAM, 50—26th Sept. off Navarino.

CALEDONIA, 120—26th Sept. off Navarino.  
CANOPUS, 84—20th Sept. off Navarino.



CEYLON, 2—Malta.	PORTLAND, 52—2d Oct. sailed from Malta.
CHILDERS, 16—8th Oct. at Cadiz.	PLUTO, St. V.—15th Sept. sailed for Odessa.
COLUMBINE, 18—26th Sept. off Navarino.	REVENGE, 78—26th Sept. off Navarino.
EDINBURGH, 74—26th Sept. off Navarino.	SAPPHIRE, 28—8th Oct. at Corfu.
ENDYMION, 50—8th Oct. at Cadiz.	THUNDERER, 84—26th Sept. off Navarino.
FAVORITE, 18—8th Oct. at Smyrna.	TRIBUNE, 24—8th Oct. at Cadiz.
JASEUR, 18—8th Oct. on coast of Spain.	TYNE, 28—8th Oct. on coast of Spain.
MALABAR, 74—8th Oct. at Cadiz.	VERNON, 50—26th Oct. off Navarino.
MEDEA, 6—2d June at Piræus.	VOLAGE, 28—25th Sept. at Therapia.
ORESTES, 18—8th Oct. at Tripoli.	

## CAPE AND AFRICAN STATION.

Rear-Admiral, P. Campbell, C.B.—*Flag-Ship*, THALIA, 46.

BRISK, 3—4th Oct. arrived at Portsmouth from the Gambia.	LEVERET—24th Sept. sailed from Plymouth for Gambia and Cape.
BRITOMART, 10—30th Aug. at Ascension.	LYNX, 10—June Bight of Benin.
BUZZARD, 10—June Bight of Benin.	PELICAN—4th July arrived at Cape from Ascension.
CHARYBDIS, 3—24th July left St. Helena for the Cape.	PYLADES, 18—3d Oct. sailed for Africa.
CURLEW—Aug. at Sierra Leone.	ROLLA, 10—Aug. at Sierra Leone.
FAIR ROSAMOND, <i>Schooner</i> —June in Bight of Benin.	THALIA, 46—15th Aug. at Ascension; 16th Aug. sailed for Cape.
FORESTER—21st June off Prince's Island.	TRINCULO, 18—June in Bight of Benin.
GRIFFON, 3—July in the Gambia.	

## EAST INDIA STATION.

Rear-Admiral, Hon. Sir T. B. Capel. *Flag-Ship*, WINCHESTER, 52.

ANDROMACHE, 28—9th July left Madras for Mauritius.	ROSE, 18—18th April at Singapore, from Malacca.
HYACINTH, 18—20th Dec. arrived at Hobart Town from Swan River; 16th February left Sydney for Twofold Bay.	VICTOR, 18—7th June at Cape; 11th sailed for Mauritius.
RALEIGH, 16—17th June at Bombay.	WINCHESTER, 52—21st April sailed for Bombay.
RATTLESNAKE, 28—17th June at Bombay.	WOLF, 18—5th Feb. sailed from Algoa Bay for India.
	ZEBRA, 16—12th March sailed for Trincomalee.

## NORTH AMERICAN AND WEST INDIAN STATION.

Vice-Admiral The Right Hon. Sir G. Cockburn, G.C.B. *Flag-Ship*, PRESIDENT, 52.

BELVIDERA, 42—18th Sept. at Bermuda on her way to Barbados.	CRUIZER, 18—18th July at Barbados.
CHAMPION, 18—12th Sept. arrived at Jamaica from Halifax; 23d sailed on a cruise.	DEE, St.V. 4—20th Sept. at Jamaica.
COLUMBIA, St.V.—Erroneously stated at Portsmouth in last number; 19th June at Trinidad from Jamaica.	DROMEDARY—Bermuda.
COMUS, 18—16th Aug. left Jamaica for Honduras.	FLAMER, St.V.—Running with mails between Jamaica and Barbados.
	FORTE, 44—26th Aug. arrived at Quebec.
	GANNET, 18—25th Sept. arrived at Jamaica from Halifax.
	LARNE, 18—29th July at Barbados.



MAGNIFICENT, 4—Port Royal.  
 PICKLE, 5—20th Sept. left Jamaica for Havana.  
 PINCHER, 5—Tender to flag-ship, 20th Sept. left Jamaica for Nassau.  
 PRESIDENT, 52—Vice-Admiral the Right Hon. Sir Geo. Cockburn, G.C.B., 26th Aug. arrived at Quebec.  
 RACER, 16—7th Aug. arr. at St. John's; 19th sailed for Labrador coast.  
 RACEHORSE, 18—23d Sept. arrived at Maranham from Para.  
 RAINBOW, 28—20th Sept. at Jamaica.  
 SAVAGE, 10—8th Sept. sailed from Barbados.

SCYLLA, 18—16th Aug. arr. at Vera Cruz from Jamaica.  
 SERPENT, 16—30th Aug. sailed from Jamaica.  
 SKIPJACK, 5—7th Aug. at Port Royal.  
 SNAKE—9th Nov. arr. at Spithead and sailed for Port Royal.  
 SPITFIRE, St. V.—11th July arrived at Jamaica from Barbados.  
 VESTAL, 26—14th Sept. arrived at Barbados.  
 WASP, 18—20th Sept. left Jamaica for Nassau.

SOUTH AMERICAN STATION.

Rear-Admiral Sir G. E. Hamond, K.C.B. *Flag-Ship*, DUBLIN, 50. 2d June.

ACTÆON, 28—31st May in River Plate.  
 BASILISK—6th July left Rio for Valparaiso.  
 BLONDE, 46—4th June at Callao from Valparaiso.  
 CHALLENGER, 28—Wrecked on the coast of Chili 19th May.  
 COCKATRICE, 6—Running between Rio Janeiro and Buenos Ayres.  
 DUBLIN, 50—30th August at Rio Janeiro.  
 HARRIER—19th Nov. left Spithead for South America.

HORNET, 6—Running between Monte Video and Rio Janeiro.  
 NORTH STAR, 28—6th July left Rio for Valparaiso.  
 RAPID, 10—6th July left Rio.  
 ROVER, 16—19 Aug. sailed from Bahia.  
 SATELLITE, 18—Ordered home; 18th June at Callao.  
 SPARROWHAWK, 18—25th July at Valparaiso.  
 TALBOT, 28—24th May left the Cape for Rio. Arrived 22d June.  
 WANDERER, 16—1st Nov. sailed from Plymouth for Rio.

TROOP SHIPS.

ATHOL, *Troop Ship*—9th Sept. arrived at Plymouth from Cork.  
 BUFFALO, *Store Ship*—Portsmouth.  
 JUPITER, *Troop Ship*—3d Oct. sailed from Spithead, with Lord Auckland and

suite, for India; 13th Oct. arrived at Madeira.  
 ROMNEY, *Troop Ship*—17th June left Rio for Cape.

STEAM VESSELS.

AFRICAN—See Packets.  
 ALBAN—See Mediterranean Station.  
 BLAZER—Woolwich, refitting.  
 COLUMBIA—See West Indies.  
 CARRON—Woolwich. To pay off.  
 COMET—Woolwich, refitting.  
 CONFIANCE, 2—Running with mails between Malta and Corfu.  
 DEE, 4—See North American Station.  
 ECHO—Woolwich, refitting.  
 FIREBRAND—At Waterford.  
 FIREFLY—See Packets.  
 FLAMER, 6—See West India Station.  
 HERMES—Woolwich. To sail 26th Nov. for Falmouth.  
 LIGHTNING—At Hambro'.

MEDEA, 6—See Mediterranean Station.  
 MESSENGER, 1—25th Oct. Woolwich, fitting.  
 METEOR—5th Sept. at Teneriffe, on her way to Jamaica.  
 PHENIX—See Lisbon Station.  
 PLUTO—Mediterranean.  
 RHADAMANTHUS—Woolwich. Ordinary.  
 SALAMANDER—Woolwich. Ordinary.  
 SPITFIRE, 6—See West India Station.  
 TARTARUS—Lieut. James sailed from Woolwich 3d July, with the Hon. Henry Ellis, Ambassador to Persia, and suite on board, for Malta.



## SURVEYING VESSELS AT HOME AND ABROAD.

ÆTNA, 6—At Portsmouth, fitting.  
 BEACON—Archipelago.  
 BEAGLE, 10—Coasts of Patagonia and Chili.  
 FAIRY, 10—North Sea.  
 GULNARE, Hired Schooner—Gulf of St. Lawrence.  
 INVESTIGATOR, 16—Orkney Islands.  
 LARK—15th Nov. sailed from Portsmouth for West Indies.  
 MASTIFF, 6—Archipelago.  
 RAVEN—Portsmouth, fitting.  
 SULPHUR—Portsmouth, fitting.  
 THUNDER—3d March sailed for Honduras.

OFFICERS EMPLOYED IN SURVEYING AT HOME.  
 Com. W. Mudge; Assistants, Lieuts. J. Harding, G. A. Frazer.—Coast of Ireland.  
 Lieutenants, M. A. Slater; H. C. Otter.—East Coast of Scotland.  
 Lieutenants, W. L. Sheringham; A. Kortright.—Cardigan Bay.  
 Lieutenant C. G. Robinson.—North Coast of Wales.

## PAID OFF.

CONWAY—31st Oct. Portsmouth.  
 PIQUE,—26th Oct. Portsmouth.  
 SCOUT—6th Oct. Sheerness.

## APPOINTMENTS.

APPOINTMENTS.  
 ACTEON, 26—*Mate*, G. Sinclair.  
 ÆTNA, Surv. V.—*Lieut.* J. F. Nott;  
*Mast. act.* G. Downs; *Surg.* J. Coulter;  
*Pur.* W. Hood; *Sec. Mast.* J. Wilson;  
*Assist. Surg.* C. F. Scott.  
 BRITANNIA, 120—*Mast. Assist.* R. C. Allen; *Mid.* B. H. Paget; *Assist. Surg.* J. Lardner.  
 CALEDONIA, 120—*Captain*, G. Martin, C. B.  
 CLEOPATRA, 26—*Mid.* C. Grey.  
 COAST GUARD—*Com.* J. Kingcome;  
*Lieuts.* G. W. Tomlin, J. Coleman,  
 H. Johnstone.  
 DELIGHT, 10—*Lieut.* J. Hill; *Mast.* A. S. Knight.  
 DUBLIN, 50—*Captain*, G. W. Willes;  
*Coll. Mid.* O. Hansard.  
 EXCELLENT—*Mate*, H. Stewart; *Lts.* — Ingledue, A. W. Jenningham.  
 FIREFLY, St. V.—*Mate*, W. K. O. Price.  
 HARRIER, 18—*Mates*, T. Belgrave,  
 G. C. Adams; *Coll. Mate*, J. C. T. Ewart;  
*Assist. Surg.* H. Barnes.  
 HERMES, St. V.—*Lieut.* W. S. Blount;  
*Mate*, T. C. Doyle; *Assist. Surgeon*, A. Patterson; *2d Master*, H. Mapleton.  
 HASTINGS, 74—*Lieut.* E. G. Fanshaw;  
*Coll. Mid.* R. Bateman.  
 LARK, Surv. V.—*Assist. Surgeon*, J. Shawe.  
 LEVERET, 10—*Assist. Surg.* E. Newman, M. D.; *Clerk*, R. Crispin.

LINNET—*Mast. Assist.* H. Dutton.  
 NIMROD, 20—*Lieuts.* W. F. Glanville,  
 G. Ramsay.  
 PRESIDENT, 52—*Lieut.* H. Loring.  
 PHŒNIX, St. V.—*Lieut.* W. Robson.  
 QUAIL, 4—*Mate*, C. J. Hoffmeister;  
*Sec. Mast.* J. Paul.  
 RANGER, Packet—*Lieut.* J. H. Turner;  
*Assist. Surgeon*, J. Barnes.  
 RAVEN, Surv. V.—*2d Master*, H. Pike;  
*Assist. Surg.* G. O. Goodridge; *Clerk*,  
 T. Littleton.  
 RODNEY, 92—*Lieutenant* R. Morgan;  
*Assist. Surg.* C. Allison; *Coll. Vol.* A. Wainwright; *Vol. 1st Class*, G. Winthrop.  
 SEAFLOWER, 4—*Sec. Master*, E. Williams.  
 SPEEDY, Cutter—*Lieut.* T. R. Sullivan.  
 SPIDER, 6—*Lieut.* J. O'Reilly.  
 SNAKE, 16—*Surgeon*, R. Holden;  
*Master's Assist.* G. Gardner; *Mate*, T. H. Harper; *Vol. 1st Class*, A. Wasey,  
 E. D. Rich.  
 STARLING, Surv. V.—*Lieut.* H. Kelllett; *2d Master*, P. Chown; *Assistant Surgeon*, W. B. Marshall; *Clerk*, A. Feeley.  
 SULPHUR, 8, Surv. V.—*Master*, J. T. Dormer; *Purser*, B. Heather; *2d Mast.* G. Neps; *Master's Assist.* C. George;  
*Mid.* R. M. K. Richardson; *Vol. 1st Class*, N. S. Sullivan; *Clerk*, H. S. Gibson.  
 VOLAGE, 28—*Capt.* P. Richards.



## WRECKS OF BRITISH SHIPPING—FROM LLOYD'S LISTS, 1835.

Continued from page 702.

VESSELS' NAMES.	MASTERS' NAMES.	WHERE FROM.	WHERE TO.	WHERE WRECKED.	WHEN	PARTICULARS.
222 Anna Maria	Stickland	Liverpool	St. John's	Arklow B.	3 Nov.	Crew saved.
223 Charlotte		Drogheda		Dundrum		Crew lost.
224 Dale		Maryport		Dundrum		Crew lost.
225 Emerald		Quebec		At Sea		
226 Easy		Wicklow		Cemaes	25 Oct.	
227 Fisher				At Sea	26 Oct.	Crew saved.
228 Friends	Taylor	Shields		Gnnfleet	12 Oct.	Crew saved.
229 Hale	Morgans	Redwef	Liverpool	Off Beauma]	10 Oct.	
230 Helen	Rust			St. Kitt's	15 Aug.	
241 Hope		Shields		Ridge S.	4 Nov.	Crew saved.
232 Ilton	Little	Quebec	Liverpool	St. Belle I.	28 Sept.	Crew saved.
233 James		Liverpool	Quebec	C. Ray	9 July	Crew saved.
234 King George	Negus	Malaga	London	Saintes	25 Oct.	Crew saved.
235 Lero	Berry	Grangemth	Wisebeach	Off St. Abbs'hd	6 Oct.	Crew saved.
236 Lyra	May	London	Quebec	At Sea	5 Sept.	Abandoned.
237 Majestic						
238 Maria	Meagher	Newport	St. John's	At Sea	Sept	
239 Marmaduke		Sunderland	Meduff	At Sea	22 Oct.	Crew saved.
240 Matilda				St. Domingo	3 Aug.	3 drowned.
241 May	Valentine	Liverpool	Westport	Iale Man	4 Nov.	
242 Nathan Graham		Cork	Quebec	C. Ray	9 July	40 drowned.
243 Nancy		St. John's Nd		At Sea	28 Sept.	1 saved.
244 New Blessing	Fidhal	Cardiff	Waterford	Helwich Sd.	23 Oct.	Crew saved.
245 Panmore	Young	Ayr	Quebec	At Sea	20 Sept.	Crew saved.
246 Plough		Bangor	Newcastle	Northld.	Oct.	1 drowned.
247 Prince Fredk.	Wood	Hull	London	Certon	4 Nov.	3 drowned.
248 St. Leonard	Gurr	Quebec	Liverpool	At Sea	7 Oct.	Abandoned.
249 Sophie	Hamilton	St. John's	Jamaica	At Sea	6 Oct.	Crew saved.
250 Spring	Dennis	Yarmouth		Flambro' Hd.	25 Oct.	Crew saved.
251 Strachan		St. Petersburg.	London	At Sea	26 Oct.	All lost.
252 Vigilant		Petersburg.	London	At Sea	26 Oct.	Foundered, cr. sd.
253 Wm. Ewing	Anderson	Londonder.	Quebec	Scatterie	17 June	Crew saved.

## PAR HARBOUR, CORNWALL.

INFORMATION FOR MARINERS.—The following account cannot be too well known, as it adds one more vessel to the five previously saved by the new harbour which Mr. Austen has lately made at Par; and it should also be known, that it is his intention to ask permission of the Trinity Board to allow a light to be kept always burning by night from half-flood till half-ebb on the Pier Head, and to have a flag hoisted there during the same time of the Tides by day.

During a very heavy gale of wind from the S.S.E., on Tuesday, the 3rd November, the "Countess of Durham," schooner, of Boston, about 150 tons burthen, of which I am master, bound from Sunderland to St. Michaels, with a general cargo, became embayed off Par, when the tide was about half flood in the afternoon, but, from the denseness of the fog, neither myself nor crew could discover the harbour: finding ourselves, however, in only two and half fathoms of water, and very near the rocks, but without knowing where we were, and seeing the impossibility of escape from our inability to beat out of the bay, we came to the determination of running the vessel on shore, as the only chance left of saving our lives: in furtherance of which, as we approached nearer the shore, I, who was in the rigging on the look-out, most happily discovered the



Pier Head, at the end of Mr. Austen's break-water, for which we immediately steered, and in a few minutes the vessel was safe inside the break-water, without having sustained the slightest injury.

JAMES YOUNG.

**DISTRESSING ACCIDENT AT SEA.**—On the 6th of Nov., a brig was observed from the beach at great Yarmouth, off the Newarp Floating Light, with a signal hoisted for a pilot, and Thomas Layton and James Brown, in a large yawl, with ten boatmen and a pilot, proceeded through a very heavy sea, alongside the brig, the *Pacquette de Bilbao*, from Hamburgh to Cadiz, in a very leaky state, with both pumps going. Layton and two of his crew went on board to assist. The rest of the boat's crew returned for the shore; in passing the Newarp Light they took on board a sick man, Henry Fenn, and then made all sail, with a fresh breeze at W.S.W., the flood-tide making, and the sky portending bad weather; and when about two miles within the light-vessel, at half-past six P.M., a most tremendous squall of wind came down from the north, took the yawl's sails aback, and capsized her, and she immediately sank, leaving nine unfortunate men at the mercy of the waves, at a distance of many miles from land, eight of whom almost immediately sunk to rise no more, leaving six widows and 17 young children.

This account of the loss is from Samuel Brock, who miraculously preserved himself, and of which he gives the following account:—In about a quarter of an hour after the boat was capsized, the boat and men disappeared, and he got hold of a rush horse-collar, used as a fender to the boat, and got it on his arm, and from its support was enabled to get his knife and cut off his oiled petticoat-trousers, oiled frock and waistcoat, and neckerchief, but dared not attempt to get his other trousers off, lest they should entangle his legs. He then got the collar over his head, but was soon obliged to abandon it, as it retarded his swimming, and kept himself for Winterton High Light, but the flood soon drove him out of sight. He then kept sight of two stars, but which became obscured by a cloud, and he thought all was over, until the moon shone out very bright; but he found himself much fatigued with his shoes, and with great difficulty cut the lacings and got them off, and shortly after he saw the land from the reflection of the moon, and drove over the Cross sands ridge with the flood-tide, keeping himself in an upright position, and got sight of Lowestoft High Light, and soon after a buoy, which he swam towards, and found to be the chequered buoy of St. Nicholas's Sand, but did not attempt to get upon it, in the hope that he should have strength to get into the Gateway. About this time he was much annoyed by sea-gulls screaming over his head, and was alarmed lest they should peck at him, and he called out and dashed his hands in the water, and they went away. He then perceived he was getting fast to the westward, but found by the roar of the sea that he had to swim across Corton Sand, which he did with great difficulty, the sea running over his head. He then got sight of a vessel, which reanimated him, and on the water slack he went towards her very fast, but, on the ebb coming away, he reached within about 200 yards, and could not fetch her, but hailed her with all his strength, and was instantly answered by the watch on deck, who lowered a boat, and got him on board at half-past one of the morning of the 7th, having been in the water seven hours, and come a distance from twelve to fourteen miles, and was landed the next day at Lowestoft from the vessel, the *Betsy* of Sunderland, C. W. Christian, master, coal-laden. He has suffered very much from the fatigue, but is now recovering.—*Scotsman*.



**Births.**

At Lincoln, on the 29th October, the lady of Henry Lawson Long, Esq., Purser, R. N., of a son.

At Pembroke Dock, Pembrokeshire, Mrs. Soden, wife of Mr. J. Soden, Purser, R. N., of a daughter.

On the 2d of November, the lady of Capt. Rochford, R. N., of a daughter.

**Marriages.**

At Tregony, Lieut. Edward Hennah, R. N., only son of the late Captain W. Hennah, R. N., C. B., to Ann, eldest daughter of Mr. Jewel, Surgeon.

On the 27th Oct. at Ipswich, Lieut. Charles Bolton, R. N., to Ann-Elizabeth, fourth daughter of the late Thomas Howard, Esq., of London.

On the 31st Oct. at Kingston, Hants, Lieutenant Charles Pearson, of H. M. S. Howe, to Emma S. M. Rowes, third daughter of William Rowes, Esq., of Elm-grove, Southsea, late Assistant-Master-Attendant of H. M. Dockyard, Portsmouth.

At Plymouth, Lieut. J. Tom, R. N., of Adderton, to Emma, eldest daughter of Lieut.-Colonel Vallack, late of the Royal Marines, of Boundary Cottage, Rame.

**Deaths.**

Lately, at his seat, Hayle Cottage, Kent, Theophilus Jones, Esq., Admiral of the White, in the 90th year of his age. This officer commanded the *Hero*, 74, in 1782.

At his residence, in Park-street, after a short but severe illness, Mr. Peter Inskip, aged 56, Master, R. N.

At the Coast Guard Office, Leith, where he was Clerk, Mr. John Elgar, Purser, R. N. (1810.)

At Dartmouth, Lieutenant James Strong, R. N. (1816.)

At Athens, of fever, after nine days' illness, Mr. Swaine, Second Master of the *Barham*.

We regret to state that tidings have been received of Lieut. Henry Harris, of the *Caledonia*, (son of Lieut.-Col. T. Noel Harris, late on the staff of this district,) having been killed, a few weeks since, by falling out of the main rigging of that ship.

On the 21st of August, of fever, at Port Royal, Jamaica, Henry F. Davies,

of H. M. S. *Rainbow*, aged 22 years, third son of Captain R. L. Davies, of Redinnick House, Penzance.

In Bury-street, St. James's, Captain H. Barwell, R. N., aged 80.

Near Bubnell, Derbyshire, Lieut. Joshua Birks, R. N., aged 66.

At Jamaica, Mr. S. J. Butcher, Purser of the *Rainbow*. (1809.)

On the 5th November, at Chawton, Captain Benjamin Clement, R. N., and lately commanding the *Shannon* frigate on the West India station.

At Bodmin, Commander D. King, R. N., on the retired Commander's list.

On the 2d of June last, at Sydney, New South Wales, John Windeyer, Esq., Purser, R. N. (1804), brother to Charles Windeyer, resident magistrate of that colony.

Lately, in the East Indies, Mr. Robt. Barron, Purser of H. M. S. *Wolf*.

Aged 81, Mr. William Green, R. N., Chapel-row, Portsea.

At Park-place, Paddington, aged 47, Commander Henry Hoghton.

On the 1st November, at Cookstown, Ireland, John Young, Esq. Surg. R. N.

Suddenly, at Wicklow, on the 21st Oct. Lieutenant J. Atkins, R. N. (1830), Chief Officer in the Coast Guard Service, at that place.

On the 11th Nov. Lieut. Thomas Colebrooke, R. N., special magistrate, aged 46 years.—*Nassau Gazette*.

On the 18th September, at the hospital, Jamaica, Mr. A. Strickland, and Mr. F. W. Merewether, Mates of the *Rainbow*.

On the 7th Nov., at Eden-grove, Holloway, Mr. J. Curtis, Purser, R. N.

At his residence in Eaton-place, Captain the Hon. Sir Henry Duncan, Knt., C. B. This gallant officer was the second son of Viscount Duncan, who defeated Admiral de Winter, commanding the Dutch fleet off Camperdown, and brother to the present Earl of Camperdown. Sir Henry Duncan was a brave and meritorious officer, and highly esteemed. He died of apoplexy, and has left a widow and family.

In Durnford-street, Stonehouse, on the 4th Nov., J. Simpson, Esq. M. D., for many years a most respectable practitioner.

On the 12th Oct. at Lannion, France, Lieutenant Thomas Simmonds, R. N. (1813.)



**METEOROLOGICAL REGISTER, kept at Croom's Hill, Greenwich, by  
Mr. W. Rogerson, of the Royal Observatory.**

**OCTOBER, 1835.**

Month Day.	Week Day.	BAROMETER, In Inches and Decimals.		FAHRENHEIT'S THERMOMETER, In the Shade.				WIND.				WEATHER.	
								Quarter.		Strength.			
		9 A.M.	3 P.M.	9 A.M.	3 P.M.	Min.	Max.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
1	Th.	29.26	29.26	54	56	52	57	S.	S.	8	8	Qp (2)	Qr (3) (4)
2	F.	29.22	29.24	54	58	52	59	S.	S.	6	6	Qp (2)	Bcp (3)
3	S.	29.35	29.31	51	57	47	58	S.	S.E.	5	5	P (2)	Gor (3) (4)
4	Su.	29.37	29.40	52	57	48	58	N.W.	N.W.	3	3	Or (1) (2)	O.
5	M.	29.65	29.75	49	57	45	58	S.W.	S.W.	3	3	B.	B.
6	Tu.	29.88	29.93	51	61	45	62	S.W.	S.W.	2	2	Bm.	Bcp (3)
7	W.	30.03	30.05	50	57	46	58	S.W.	N.E.	2	3	Of.	O.
8	Th.	29.95	29.83	52	56	47	57	E.	E.	5	5	Bc.	Bcm.
9	F.	29.50	29.35	52	54	47	55	S.W.	S.W.	7	7	Oqr (2)	Or (4)
10	S.	28.90	29.06	46	51	45	51	N.W.	N.W.	6	6	Bcr (1)	Bc.
11	Su.	29.32	29.60	42	46	38	47	N.W.	N.W.	4	4	O.	Bcm.
12	M.	29.84	29.86	43	47	37	48	N.W.	N.W.	6	7	Oq.	Oqr (4)
13	Tu.	29.95	29.97	56	61	51	62	S.W.	S.W.	3	5	Or (1)	O.
14	W.	30.26	30.30	53	55	52	56	N.	W.	2	1	Op (2)	O.
15	Th.	30.40	30.40	54	58	51	59	W.	N.E.	1	1	O.	O.
16	F.	30.42	30.36	52	57	49	58	N.E.	N.E.	1	1	O.	O.
17	S.	30.30	30.26	51	54	47	55	E.	E.	1	1	O.	Bcm.
18	Su.	30.34	30.42	53	55	45	56	S.E.	S.E.	2	2	O.	Bc.
19	M.	30.27	30.25	39	50	34	51	S.E.	S.E.	3	3	F.	B.
20	Tu.	29.70	29.80	47	48	31	49	S.	S.	2	2	Bcf.	O.
21	W.	29.78	29.76	39	47	36	49	S.W.	S.W.	4	5	F.	O.
22	Th.	29.60	29.54	45	51	40	52	S.	S.	5	5	Or (2)	Or (4)
23	F.	29.66	29.73	42	49	33	51	S.W.	S.W.	3	5	Bcr (1)	Bcqr (4)
24	S.	29.67	29.69	48	52	40	53	S.W.	S.W.	5	5	Oqr (1)	B.
25	Su.	29.55	29.42	44	52	41	53	S.W.	S.W.	7	10	Qor (2)	Qr (3) (4)
26	M.	29.30	29.28	46	51	45	52	S.W.	S.W.	5	7	Qp (1) (2)	Qp (3)
27	Tu.	29.70	29.78	43	47	39	48	S.W.	W.	8	5	Bc.	Bc.
28	W.	29.98	29.98	38	47	32	49	S.W.	S.W.	2	2	B.	B.
29	Th.	29.88	29.94	52	55	48	56	S.W.	S.W.	5	3	Or (1) (2)	O.
30	F.	30.22	30.16	42	46	36	48	N.E.	N.E.	3	3	O.	Or (4)
31	S.	29.90	29.88	48	54	45	56	S.E.	S.W.	2	2	Or (1) (2)	Od (4)

OCTOBER.—Mean height of Barometer=29.784 inches; Mean Temperature=48.8 degrees;  
Depth of Rain fallen=3.85 inches.

.. Saturday morning, 5 o'clock, October 10th, the Barometer was down to 28.76 in.; Therm. shade 47°. Oct. 26th, at 1 o'clock A.M. the Barom., during a heavy gale of wind, fell to 29.05 in.

**Abbreviations used in the columns "Weather," and "Strength of Wind."**

WIND.	WEATHER.
0 Calm.	b Blue Sky—whether clear or hazy atmosphere.
1 Light Air.	c Clouds—detached passing clds.
2 Light Breeze.	d Drizzling Rain.
3 Gentle Breeze.	f Foggy—f Thick fog.
4 Moderate Breeze.	g Gloomy dark weather.
5 Fresh Breeze.	h Hail.
6 Strong Breeze.	i Lightning.
7 Moderate Gale.	m Misty hazy atmosphere.
8 Fresh Gale.	o Overcast—or the whole sky covered with thick clouds.
9 Strong Gale.	
10 Whole Gale.	
11 Storm.	
12 Hurricane.	
	p Passing temporary showers.
	q Squally.
	r Rain—continued rain.
	s Snow.
	t Thunder.
	u Ugly threatening appearances.
	v Visible clear atmosphere.
	w Wet Dew.
	. Under any letter indicates an extraordinary degree.

The Figures in the Weather Columns.—1 denotes the first six hours of the day, i.e. from midnight to 6 A.M.; 2 from 6 A.M. to noon; 3 from noon to 6 P.M.; 4 from 6 P.M. to midnight. The marks ( ) signify the first and last half of the six hours, and both together denote the whole interval. They are intended to express the time nearly when rain fell. Thus, 2) signifies that rain fell between 9 A.M. and noon; (1 between midnight and 3 A.M.; and (2) that it rained the whole six hours from 6 A.M. to noon; (3) ditto from noon to 6 P.M.

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# THE NAUTICAL MAGAZINE,

Vol.

IV.



A

JOURNAL OF PAPERS

*As published by the Admiralty*

*These are the papers of the late Captain Sir John Ross, R.N., who was killed in the Arctic expedition of 1829-30, and who was the first to discover the North-west Passage.*

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# Supplement.

## ORIGINAL PAPERS.

DECEMBER, 1835.

NOTES on a Passage to Barbados from Port Royal by *Mariguana*—on the Anchorage at Anguilla—and thence to Maranham and Para, in *H. M. S. Dispatch*. Com. G. Daniell, R.N.

Sept. 17th. 1833, 6 A.M. Sailed from Port Royal, Jamaica, for Barbados. Having cleared Morant Point, steered for Navaza, but the winds falling light during the night, the current setting to the N.W., carried us well to the westward of it. The wind still continuing light, we had some difficulty in stemming the current, which makes about S.W. by W. between Capes Nicholas Mole and Maize; and it was not until the 23d, that we weathered Tortugas. The wind still light, and from the eastward I determined to make the Mariguana instead of the Turk's Island passage.

At daylight on the 24th, we saw the S.E. point of Great Inagua, N.W. by N.: when first seen at this bearing, it had, on the east side, the appearance of a low flat; there being a range of hillocks on its south side, it there made like a group of small islands: the north visible extreme terminated in a rising ground gradually sloping from its summit, which lies about one-third up the east side, or seven miles from the S.E. point. As we shut in the south coast with the S.E. point we opened a rock lying about two miles off it, bearing from it about S.E. Off this rock lies the shoal on which the *Statira* was lost in 1815. The Columbian navigator gives this shoal off the N.E. instead of the S.E. point, and also gives the breadth of the island ten miles, the distance from the N.E. and S.E. points being twenty. At noon tacked in 13 fathoms rock, about three miles off shore, S.E. point S.W., N.E. point N. by W. Little Inagua just visible from the topsail yards, off the N.E. point. The coast here is fringed by a line of rocks, in many places showing above the water, with a clear space of half a mile between them and the beach. At one, tacked; at four, opened the north side off Great Inagua of the N. E. point, it bearing at the time W.S.W., east extremity of Little Inagua N.N.E.; it appeared to me to tend more to the south-eastward, than as laid down in our charts. At 5.30. tacked, N.E. point Great Inagua south; extremity of Little Inagua, from N.E. by E. to W. by S. As we stood along the south side of Little Inagua to



the east, I perceived it fringed by a reef similar to the Great : the east part was quite white from the dung of birds, so as to be clearly distinguished after I had lost sight of the remainder of the island.

25th Sept., at 2 A.M. Tacked, and at daylight made the West, or Little Caycos, N. by E., two miles : stood along its west side at about one mile off shore, found it quite clear ; off its S.W. end it has the appearance of foul ground, caused by the current which sets over the bank from the eastward, meeting that which sets to the S.S.W. along shore ; the ripple and collection of weed from the bank gives it the appearance of a reef. At 2.50. P.M. saw the Island of Mariguana N.N.W. ; and at four, the breakers the reef, which extends from its eastern end ; our chronometers gave the east end of the reef in  $72^{\circ} 36' W.$  being five miles to the eastward of the chart : it extends at least five miles from the land, and terminates in a patch of rock above water, in the centre of which stands a single stone, like the broken shaft of a pillar, about twenty feet above the rest. The ground appears quite clear close to the reef, and we had no bottom with fifty fathoms, within half a mile of its southern edge.

At 5.30. P.M. Tacked, and stood along the south side of the reef ; and at daylight on the 26th, saw the north extreme of the Caycos, S.E. by E. At 9.30., A.M., tacked to the northward, and at 1 P.M. lost sight of them.

October 23d, in latitude  $27^{\circ} 43' N.$  ; longitude  $67^{\circ} 20' W.$  tacked to the S.E.

Oct. 11th. In passing over the place where soundings were struck by Lord William Paget, in the North Star, I kept the lead going for six hours, without any indication of shoal water ; and on the twelfth, at 10 A.M., anchored in Carlisle Bay, Barbados, in twenty-five days from Port Royal.

*Observations on the Anchorage at Anguilla, &c. &c.*

November 18th. I anchored at 6.45. P.M. off the S.W. end of Anguilla, in ten fathoms sand. Extremes of St. Martin's from E. by S. to S.W. Extremes of Anguilla, from E.N.E. to W. by N. ; Suaba, S. by W. ; a small rocky islet, called the Blowing Rock, W. by S., two miles. In making Anguilla from the W. I did not see it until distant about 12 miles. The N. end of St. Martin's (which is nearly separated from the southern and largest part by a deep valley) making as part of Anguilla ; when you first see it, it makes like a low point of land running from it. As you approach, you see a chain of small rocky islands to the northward of it : the westernmost called the Dog, the next the Prickly Pear, which is the largest, and which extends to the N.E. point. Off the S.W. point are two small rocky islets, the inner or east one called the Blowing Rock, from a hole through which the sea forces itself, and at a distance resembles the blowing of a whale.



In taking up our anchorage of the 18th, I rounded these islets in eight fathoms sand, at about half a mile distant. The passage between them and Anguilla appeared to be foul. During the night we found the current setting west one mile per hour. At daylight, the wind being scant, I did not weigh until 9 A.M., and beat up between Anguilla and St. Martin's, shoaling into ten fathoms on each side, and deepening into twenty-two fathoms in the centre of the channel. Between two and three miles from the S.E. point of Anguilla is a small bay, protected by a reef, through which there are openings for boats and small-craft to pass. To the westward of the western point, which forms this bay, is the best anchorage for ships. Close to the bay is the residence of Mr. Black, the colonial secretary. The whole of the south coast is sandy, with the exception of two or three rocky points, which form small bays, and off which the ground is foul.

The island of Anguilla is low, sandy, and unproductive, covered with dwarf timber: the high lands of the neighbouring islands, St. Martin and St. Bartholomew, by attracting the rains in the wet season, contribute to the scantiness of the crops; and from the numbers of runaway negroes, who are free on their landing and taking to the bush, subsist themselves by plundering the provision-grounds of the planters, the miseries of famine are frequently felt. Last year numbers died from starvation; and a prompt assistance from the other islands, and a grant of money from home, only saved the remainder.

On the 2d of December, 1833, at 8 P.M., weighed for Maranham. Stood to the south-eastward, in hopes of keeping the northerly winds, which had prevailed for some time. On the 6th, at noon, in lat.  $8^{\circ} 57'$  N. lon.  $55^{\circ} 39'$  W., finding that we began to feel the current setting to the N.W., I tacked to the northward into  $19^{\circ} 50'$  N. lat. and  $50^{\circ} 51'$  W. lon., and then tacked to the S.E., intending to cross the equator in  $39^{\circ} 0'$  W. lon., as recommended by Captain Courteney; as it sometimes happens that the S.E. trade-wind may head the ship well to the northward of it. You thus keep to windward of your port. Should you miss it, and not know the coast sufficiently well to enable you to beat up in-shore, many days will be lost in regaining it.

Saturday, December the 28th, at 2h. 30m. A.M., crossed the equator in  $39^{\circ} 33'$  W. lon., and at 12 P.M., sounded in fifty fathoms, and at 6h. 30m. A.M., on the 29th, saw the land, having gradually decreased our soundings to eleven fathoms. Hauled up west. At 9h. sounded in four fathoms, in crossing the shoal, at the entrance of the Rio Perguicas, which I could plainly perceive, being formed by two low bluff points, which made a break in the chain of sand-hills.

Having crossed the shoal, deepened our water to ten fathoms. The soundings then varied from ten to six fathoms. At 12h. 30m.



having carried eight fathoms regularly for the last two hours, the water suddenly shoaled to three, when, by the chart, the lighthouse on St. Ann's ought to have been seen from the ship, but could not be made out.

Hauled up N. and N.N.E. ; the soundings varying from five to nine fathoms, then rapidly to nineteen, and afterwards gradually to thirty-seven.

As the weather became hazy, I stood off and on under moderate sail until daylight of the 30th, when, being in twenty fathoms, I again bore up west. Soundings irregular from twenty to sixteen fathoms. Low sand-hills, with occasional patches of verdure near their summits, just distinguishable to the southward.

At 1h. 50m. P.M., in lat.  $2^{\circ} 5' S.$  lon.  $43^{\circ} 46' W.$ , deduced from observations at noon, we saw the lighthouse on St. Ann's S.W., being then in thirteen fathoms. Hauled up W.N.W. until the water deepened to twenty fathoms, and again stood west with irregular soundings from twelve to twenty fathoms. At 6 P.M., the weather still continuing hazy, Itaculumi not visible, I hauled off to the northward ; and on the water suddenly shoaling from twenty-five to thirteen fathoms, I anchored for the night.

At daylight on the 31st, weighed, and stood to the southward, until, by the log, we had gained our position of the previous evening, and then bore up W. by S., the soundings varying from sixteen to twenty fathoms.

The water here was thickly dotted with discoloured spots, which at first had the appearance of shoal water, but I ran over several without any change in the soundings.

At 9h. 30m. observed Itaculumi west. At 10h. 30m., when distant from it about twelve miles, hauled up S.S.W. At 12h., the water having suddenly shoaled from seventeen fathoms to five, I anchored. At 1h., having sounded, I weighed, and stood S.W. into eight fathoms, when I again hauled up S.S.W., still keeping eight fathoms. I continued this course, occasionally hauling up to S. and S. by E., and finding the water gradually to shoal, I again stood off S.S.W. I thus continued running along the western edge of the Coroa Grande, deepening my water, as I approached St. Marcos, to twelve fathoms, in which I anchored off the bar. St. Marcos bearing E.N.E. ; Fort Arcas, S.E. by E. When about six miles from the bar, I took a pilot.

At daylight, on the following morning, procured a pilot for Parà ; weighed at noon with the ebb tide, and beat down, standing into the Alcantra shore in six fathoms, and, having gained a good offing, stood to the N.W. in six fathoms ; when shoaler, hauled to the northward until we regained that depth, and then resumed our course.

At 8 A.M., on the 2d, saw the island of St. Joao, S.W. by W. twelve miles.



At 11 A.M., on the 3d, passed Point Saline in eight fathoms. It is here that pilots are generally procured for the Parà river. It may be known by a few low white buildings, the residences of the pilots, and by a chapel, the gable of which faces the beach, the whole being roofed with red tiles.

At 4h. 30m., rounded the end of the Braganza shoal, on which the water breaks at every time of tide, in sixteen fathoms; the water shoaling, as we entered the river, to seven fathoms. At 7h. 30m., the ebb tide having made, anchored to wait for the flood.

At 5h. 30m. A.M., on the 4th, weighed, and stood up the river with a fresh N.E. wind. At 4h. 30m. P.M., anchored off the city of Parà in five and half fathoms, and moored ship with a third of a cable each way. The cathedral S. by E., convent of St. Antonio, S.E. by E.

On the 6th, at 11, A.M., weighed with a pilot, and beat down the river with the wind fresh at N.E., anchoring every flood; and on the 9th, at 4, P.M., having cleared the shoals at the mouth of the river, discharged the pilot.

On the 10th, at noon, in lat.  $19^{\circ} 0' N.$ , lon.  $48^{\circ} 7' W.$ , we had deepened our water to seventeen fathoms, grey sand. On the 11th, at noon, in  $1^{\circ} 31' N.$  lat., and lon.  $48^{\circ} 34' W.$ , to twenty-four fathoms, and on the 12th, at 6 A.M., to forty-five fathoms. On the 16th, at 9h. 30m. A.M., anchored in Carlisle Bay.

There are a variety of directions for making Maranhão from the northward, by which the navigator is guided by marks on the land, which I conceive are more likely to mislead than otherwise. The land to the eastward of it is composed of low ranges of sand-hills, whose shapes are constantly liable to change; and although light differences in their appearance may serve to guide those who are already acquainted with them, those who are not are liable to be deceived by their description. It is also unsafe to run along them nearer than from eight to ten miles; and when the constant haze, which, in countries where the sun is powerful, is known to hang over sandy districts, is taken into consideration, it must be obvious that, even if well acquainted with the distinguishing marks, it may frequently happen that you cannot avail yourself of your local knowledge.

There is one direction, which, if followed, will relieve you from all uncertainty. When you are in  $2^{\circ}$  south lat. and in  $42^{\circ}$  west lon., steer west until you see Itaculumi.

If the weather should not allow you to ascertain your latitude by observation, neither will it allow you to avail yourself of your knowledge of the land.

In making the entrance of the Parà river from the eastward, the bill of the Braganza shoal is sometimes mistaken for the shoal off the western shore, and ships get into the bight to the eastward



of it, from which there is no outlet. This mistake may be instantly discovered by the lead, as the water deepens to twenty-five and thirty fathoms from twelve, while in the river it shoals to seven. On discovering the mistake, the ship ought to haul out instantly, on whichever tack she will best lay, as the current sets with great velocity over the bank.

I was informed by Captain Mason, of the Brazilian corvette Bertioc, that many vessels have been lost by this mistake, not being able to stem the current in beating out, and the bottom being hard sand, with thirty fathoms close to the edge of the shoal, they have driven on it before they could bring themselves up.

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### THE FERRY BOAT.—No. II.

POOR woman, bailing might free the boat, but her eyes requir'd a deal of swabbing to dry up her tears: it really was piteous to see her rubbing them with a check apron, which could not check, alas! her copious flood of grief; these waters will flow on like any other tide, when *ill betides us*, as Jack Williams us'd to say. However, the distant sound of a well-known voice made her look up at last, aye, and cheer up too, for she smil'd just as if, poor creature, she had nothing in the world to vex her. It was the arrival of her son, that turned her grief to joy thus suddenly. I mean the youngster, honest Jack: his looks accorded well with every thing his mother had said in his behalf, for kindness, generosity, and candour were depicted in his countenance. Poor child, had he enjoyed the advantages of the toilet, he would have been strikingly handsome. Of hair he had a glorious crop, but it most sadly wanted cropping: the wind blew about the locks so that he had to brush them aside from his eyes continually, and this I fear was the only kind of brushing that they ever got. His hat was so inconveniently large as to incommode him, he would have been more comfortable without it: the same fault could not be found with his trowsers, these were a deal too short and small; I won't, however, say of these what I did of the hat, because as we don't live in the days of Adam, nor belong to the fanatic sect of *Lauterbrun nakedites*,\* to tell the naked truth, I should not like to see Jack, honest, disinterested, generous Jack Bateau in a state of nudity, though he could well afford it, for his form was a model of symmetry. Alas! that his poor parents could not then afford to clothe him better! but they are, while we are writing thereof: yes, yes, Jack is well clothed now, so are they all.

Well, gentle reader, are you not well pleas'd to hear this? Yes, certes! good; let me give you credit for it then, as it is most cre-

\* Enthusiasts who are so visionary as to think they can retrieve the loss of nature's pristine innocence by going without clothes.



ditable to your heart to sympathize with honest people in distress. I am not sure that you will be inform'd how they got out of their troubles; but, since you have been partly made acquainted, by Martha, how they got involv'd in difficulties, a short statement of the cause may be acceptable. I must in candour admit, that "a thousand and one stories" will occur at once to every person's recollection, of the dangers which result from keeping evil company, and, therefore, that it may be considered superfluous to add to that number the history of Ambrose; but as I did not refuse to hear it, you may not object to read it.

You, however, have one advantage over me, you can skip over as many leaves as you choose without saying to me, "By your leave, Dennis Drift, half-pay lieutenant and scribbler! I can't and wont be bother'd with your botheration story of a Ferry Boat! Now, all this time, I'd venture a snug bett, were I so desperate a noodle as to bett about this, (or any other matter, for the *matter of that*,) well then, I say I'd bett, barring you are Irish, my dear reader, or *skipper*, that you know no more the meaning of the word bothering, than Frenchmen do of "Love's Last Shift," or the "Green Man and Still!"\* And you who curl your nose up saucily, and lift your shaggy brows up superciliously, do you pretend to say you know the real meaning of this much-us'd seldom comprehended word? I do! For a man to be *bother'd*, he must have two persons telling each a different story on either side of him, he lending one ear to either speaker, and, my dear reader, thus he gets *both-eard*. Q.E.D.

Now, allowing you don't skip, touching this matter, I'll give you a bit of a story, which will illustrate how kind nature is in gifting certain favour'd individuals. Cæsar could dictate six letters at a time to his secretaries; Phillidor could play almost as many games of chess; Dando could eat as many oysters as five reasonable men; and Geordie Langlug, merchant in the goose dubs, Glasgow, could hear exactly twice as much as any other man existing. There was a time when the lamp of zeal burn'd fiercest, if not brightest, in Old Scotia, and when there were so many more preachers than pulpits, that while one divine was performing the service within the church, another, mounted on a tomb-stone, gave to his flock a sermon in the church-yard. Mister Langlug, who had a seat within the sacred edifice, suddenly rising from his pew, seated himself upon the sill of the open window. Mrs. Lizzy, his gude wife, having a dread that Geordie, from sitting in so full a current of air, would catch his *deeth*, taking hold of his coat skirt, tugg'd at it by way of making him resume his long-accustom'd station at her side. This almost made Langlug *beside* himself, and he at last exclaim'd quite in a

\* Which they translate "La dernière chemise de l'amour—and L'homme vert et tranquille."



rage, Woman, ha' done we riving my coat tail, dinna ye see that I am listening to *baith* the *discourses* ! and must in consequence, be twice as muckle edified as ye are !"

Well now, I who have the honour to be keeping you beside me, in the hopes of making you embark with me in the old leaky bark of Peter Bateau, while waiting the appointed time for shoving off, got the heaviest bothering myself I ever recollect enduring. A becoming sense of urbanity made me retire to a distance, while old Martha and her son Jack took their poor repast. For, as in that case, to turn my back upon them, was a point of true good breeding ; I felt bound to do so, and sat down upon the trunk of a huge oak, some twenty yards above high water mark. While I was quite absorb'd in reading the inimitable Fables of La Fontaine, the most exquisite of all French authors, and wondering if by possibility the darling quaint old fellow could ever get becomingly array'd in an English dress, two persons came and sat beside me. They were both veterans, who had arriv'd at the age of *twaddlehood*, and soon,

" Bringing ill-*augur'd* tongues to bear on me,  
Prov'd bores in a superlative degree !"

One was an Englishman, whose effrontery and persecuting loquacity was so well known to me by reputation, that I was startled when he introduced himself to me as Mr. Fogram of Fiskard ; this is a man who prov'd a torment to a very amiable friend of mine, when travelling in Switzerland. The other proser was a Frenchman from Gascony, a speaker so loud, so garrulous, so voluble, that even to hear him made me feel as if I never more should recover my breath. As far as I could understand his discourse, this two edg'd tongue of his was cutting right and left at Shakespeare as a dramatist, and Wellington as a warrior ; these are points between which I had continually, during my travels, found most tongues disposed to vibrate. Shutting my book up, I watch'd an opportunity to make a *bolt* ; though not a locksmith, would I could have given these prozers each a *lock-jaw* apiece, at least as long as they were in my company, but, having no such power, " in flight I sought for safety."

Fogram arose to follow me, not that I invited him by singing " Follow, follow, follow." By good luck he soon found pursuit would be in vain ; he felt that he had gouty toes, and saw I had the heels of him ; Oh, if his feet had been a tenth part as nimble as his tongue, any thing in the shape of an escape movement would have been impossible. If I had remain'd there, I suppose, to have shaken him off, would have been only accomplish'd by an act of rudeness equal to his own. I was vex'd at being frighten'd away from the boat by this scare-crow, because I wish'd to hear the sequel of Martha's story ; but I was certain old Fogram would



have prevented her, as he was the greatest monopolizer of narrative existing.

When I got to a safe distance, I hove to once more, and took out my book to resume the perusal of that charming fable of the old man and the three young ones, which I had been prevented from reading by being obliged to listen to *baith the discourses*, when, lo, I saw an old man in the very act of propping a tree weigh'd down with fruit; with him were three others, the eldest of whom was under thirty. They were waiting to take a passage, like myself; so I walk'd towards them with a view of inquiring when we were likely to start. I found that the old man was relating to the others some story respecting Peter Bateau's eldest son; as I had been already so much interested in favour of his unfortunate wife and her boy Jack, my curiosity was excited by what I heard, and I in consequence requested the narrator to gratify me with a full account of the matter: this he did, as we sat on a nicely shaded seat at his door, where a luxuriant vine hung down in graceful festoons, while we had the luxury of drinking some wine made from the juice of the same kind of grapes as now were shining with the peculiar bloom indicative of ripeness.

D. D.

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AN ACT to regulate the ADMEASUREMENT of the Tonnage and Burthen of the Merchant Shipping of the United Kingdom.—  
9th September 1835.

WHEREAS by an Act passed in the third and fourth years of the reign of his present majesty, for the registering of British vessels, certain rules are established for ascertaining the tonnage of ships as well on shore as afloat, and of vessels propelled by steam; and the account of such tonnage, whenever the same shall have been ascertained according to the rules therein prescribed (except in the case of ships admeasured afloat,) it is thereby enacted shall be deemed the tonnage of such ships, and shall be repeated in every subsequent registry of such ships, unless any alteration shall have been made in their form and burthen, or unless it be discovered that the tonnage had been erroneously computed: and whereas it is considered that the capacity of a ship is the fairest standard by which to regulate its tonnage, that internal measurements will afford the most accurate and convenient method of ascertaining that capacity, and that the adoption of such a mode of admeasurement will tend to the interests of the ship-builder and the owner, as well as to the proper collection of the dues which by law are payable on tonnage; and it is expedient to alter and amend the law in this respect: Be it therefore enacted by the King's most excellent Majesty, by and with the advice and consent of the lords spiritual and temporal, and commons, in this present parlia-



ment assembled, and by the authority of the same, that from and after the commencement of this act, so much of the said recited act as establishes rules for ascertaining the tonnage of ships, shall be, and the same is hereby repealed, so far as respects the merchant shipping of the United Kingdom to be thereafter registered.

*The Rule by which Tonnage of Vessels is ascertained.*

2. And be it further enacted, that from and after the commencement of this act the tonnage of every ship or vessel required by law to be registered shall, previous to her being registered, be measured and ascertained while her hold is clear, and according to the following rule; (that is to say,) divide the length of the upper deck between the afterpart of the stem and the forepart of the stern-post into six equal parts. Depths: at the foremost, the middle, and the aftermost of those points of division, measure in feet and decimal parts of a foot the depths from the under side of the upper deck to the ceiling at the limber strake. In the case of a break in the upper deck, the depths are to be measured from a line stretched in a continuation of the deck. Breadths: divide each of those three depths into five equal parts, and measure the inside breadths at the following points; *videlicet*, at one fifth and at four fifths from the upper deck of the foremost and aftermost depths, and at two fifths and four fifths from the upper deck of the midship depth. Length: at half the midship depth measure the length of the vessel from the afterpart of the stem to the forepart of the stern-post; then to twice the midship depth add the foremost and the aftermost depths for the sum of the depths; add together the upper and lower breadths at the foremost division, three times the upper breadth, and the lower breadth at the midship division, and the upper and twice the lower breadth at the after division, for the sum of the breadths; then multiply the sum of the depths by the sum of the breadths, and this product by the length, and divide the final product by three thousand five hundred, which will give the number of tons for register. If the vessel have a poop or half deck, or a break in the upper deck, measure the inside mean length, breadth, and height of such part thereof as may be included within the bulk-head; multiply these three Measurements together, and dividing the product by 92.4, the quotient will be the number of tons to be added to the result as above found. In order to ascertain the tonnage of open vessels, the depths are to be measured from the upper edge of the upper strake.

*Tonnage, when ascertained, to be entered on register.*

3. And be it further enacted, that the tonnage or burthen of every ship belonging to the United Kingdom, ascertained in the manner herein-before directed, shall, in respect of any such ship which shall be registered after the commencement of this act



(except as herein-after excepted,) be inserted in the certificate of the registry thereof, and be taken and deemed to be the tonnage or burthen thereof for all the purposes of the said recited act.

*Mode of ascertaining Tonnage of Steam vessels.*

4. Provided always, and be it further enacted, that in each of the several rules herein-before prescribed, when applied for the purpose of ascertaining the tonnage of any ship or vessel propelled by steam, the tonnage due to the cubical contents of the engine room shall be deducted from the total tonnage of the vessel as determined by either of the rules aforesaid, and the remainder shall be deemed the true register tonnage of the said ship or vessel. The tonnage due to the cubical contents of the engine room shall be determined in the following manner; that is to say, measure the inside length of the engine room in feet and decimal parts of a foot from the foremost to the aftermost bulk-head, then multiply the said length by the depth of the ship or vessel at the midship division as aforesaid, and the product by the inside breadth at the same division at two fifths of the depth from the deck taken as aforesaid, and divide the last product by 92.4, and the quotient shall be deemed the tonnage due to the cubical contents of the engine-room.

*Length and Cubical Contents of Engine Room to be set forth in description of Steam Vessel.*

5. Provided always, and be it further enacted, that the tonnage due to the cubical contents of the engine-room, and also the length of the engine-room, shall be set forth in the certificate of registry as part of the description of the ship or vessel, and that any alteration of such tonnage due to the cubical contents of the engine-room, or of such length of the engine-room, after registry, shall be deemed to be an alteration requiring registry *de novo*, within the meaning of the said act for the registering of ships or vessels.

*For ascertaining Tonnage of Vessels when laden.*

6. And be it further enacted, that for the purpose of ascertaining the tonnage of all such ships, whether belonging to the United Kingdom or otherwise, as there shall be occasion to measure while their cargoes are on board, the following rule shall be observed and is hereby established; that is to say, measure, first, the length on the upper deck between the afterpart of the stem and the forepart of the stern-post; secondly, the inside breadth on the under side of the upper deck at the middle point of the length; and, thirdly, the depth from the under side of the upper deck down the pump-well to the skin; multiply these three dimensions together, and divide the product by one hundred and thirty, and the quotient will be the amount of the register tonnage of such ships.



*Amount of Register Tonnage to be carved on Main Beam.*

7. And be it further enacted, that the true amount of the register tonnage of every merchant ship or vessel belonging to the United Kingdom, to be ascertained according to the rule by this act established in respect of such ships, shall be deeply carved or cut in figures of at least three inches in length on the main beam of every such ship or vessel, prior to her being registered.

*Not to alter Tonnage of Vessels already registered.*

8. Provided always, and be it further enacted, that nothing herein contained shall extend to alter the present measure of tonnage of any ship or vessel which shall have been registered prior to the commencement of this act, unless in cases where the owners of any such ships shall require to have their tonnage established according to the rule herein-before provided, or unless there shall be occasion to have any such ship admeasured again on account of any alteration which shall have been made in the form or burthen of the same, in which cases only such ships shall be re-admeasured according to the said rule, and their tonnage registered accordingly.

*Commencement of Act.*

9. And be it further enacted, that this act shall commence and take effect upon and from the first day of January one thousand eight hundred and thirty-six.

*Act may be altered this Session.*

10. And be it further enacted, that this act may be altered, amended, or repealed by an act or acts to be passed in the present session of parliament.

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*To the Editor of the Nautical Magazine.*

Kirkcaldy, 25th Aug. 1835.

SIR,—I forward you herewith the draft of a Petition which was approved of at a late public meeting at South Shields, and, with some trifling amendments, is to be forwarded to Parliament as soon as it meets.

The following facts were stated to the meeting by the chairman, Mr. Woodroffe :—In the course of twenty-five months, 143 vessels belonging to the Tyne had been lost; 30 whole ships' companies, and upwards of 300 seamen had been drowned; and the seamen, instead of insisting on having safe vessels, contribute a portion of their wages to provide a fund on which they have a claim, in the event of being shipwrecked, or to make a provision for their widows and children, in the event of being drowned; and, in this way, upwards of £30,000 of their wages had been contributed by them, and paid away in the course of the last ten years; or, upwards of £3,000 a year. And, like all cases of abuse of the



kind, this sum was found not to be sufficient for the claimants on it. It was openly stated at the meeting, and not contradicted, that many vessels were so insufficiently built, that they were not safe to proceed to sea when launched; and the *abuse* of sea insurance was unanimously admitted to be the sole cause, producing such lamentable sacrifices of life and property. I addressed a few words to the meeting, and am happy to find the seamen disposed to take steps for the protection of their lives. Should you think this or the petition worth publishing, you are at liberty to do so, as it is only exposure of the abuse, in my opinion, which can cure the evil.

I am, Sir, most respectfully,  
Your most obedient servant,  
JAMES BALLINGALL.

P.S. I consider British seamen, and the public, greatly indebted to you for the publicity you have already given of the abuse, and the means of remedying it. J. B.

#### PETITION.

Unto the Honourable the Commons of the United Kingdom of Great Britain and Ireland in Parliament assembled,—The Petition of the subscribing Masters, Mates, and Seamen, of Merchant Vessels trading to the port of London.

*Humbly sheweth,*

That your petitioners are engaged in an occupation much exposed to unavoidable danger and risk to their lives and personal effects.

That, great as their dangers and risks unavoidably are, after all precautions are used, they are much increased by the total disregard of safety evinced in the construction of merchant vessels.

Your petitioners do not consider it their province to point out the cause producing this total disregard of safety. They consider it sufficient to point out to your honourable house the notorious fact. They, however, take leave to state, that, when a merchant vessel is lost, the ship-owner, in the vast majority of cases, having his vessel insured to the full value, loses nothing. The merchant, in almost all cases, having his goods insured to the full value, loses nothing. But your petitioners, whose wages are their only capital, lose them—they not being due in such circumstances; nor, like the other parties, who ought to be interested in the safety of the vessel, but who, having their property insured to the full value, too often care nothing about the loss, can they insure them, being prohibited so doing by law. On the loss of a vessel taking place, if happily your petitioners are preserved from being drowned, after having run the risk of their lives, and probably lost their wearing apparel, and personal effects; although the loss of the vessel may have been owing to her insufficiency to contend with the ordinary



dangers of the seas, from original defective construction—to neglect of the necessary repairs by the owner, and consequent defect of hull, stores, or materials—too often we fear caused by the temptation above explained, to fire, to lightning, or other visitation of Providence, or to any unavoidable cause whatever; and, although neither blame, neglect, unskilfulness, charge, or imputation of any kind whatever, attaches to, or is even alleged against us; and, although we have used our very utmost exertions to preserve the vessel, and cargo, if there be one, from being lost; yet are our wages, our only capital, not due, and consequently lost to us. Thus, there is one law for the rich man, and another for the poor, who have their capital embarked in the same vessel.

That, in all cases of loss by shipwreck, your petitioners court the very strictest scrutiny and investigation into their conduct, similar to the practice in like cases in vessels of war, and, that wages shall only be due to such of us as have used our utmost endeavours to preserve the vessel, and cargo, should there be one, from being lost.

Your petitioners further beg to state, that no examination takes place into the qualifications of masters and mates of merchant vessels, similar to the practice for officers of the Royal Navy, and formerly for officers of the East India Company's naval service, for pilots, and for many professions ashore, even where the safety of human life is not at stake. In consequence, your petitioners' lives, personal effects, and wages, as well as the national property, are all exposed to the hazard of loss, from the ignorance, neglect, or unskilfulness of persons placed in the situation of masters and mates of vessels, but who are wholly unqualified and unfit for such offices.

May it therefore please your honourable house to take our case into your serious consideration, and, if any doubt shall arise, to cause inquiry to be made into the truth of our allegations and grievances, and, as the safety of our lives are to a great extent at stake, to cause a law to be passed, making provision for, and some regard paid to, safety in the original construction of merchant vessels. And, in the event of loss by shipwreck of any vessel to which we may belong, that the strictest scrutiny and investigation be made into our conduct, and the cause of such loss ascertained; and, if it shall appear the loss was not attributable to any neglect or default of ours, that our wages, our labour being our only capital, shall be due and paid to us, up to the time of such loss. Also, that an examination be made into the qualifications of masters and mates of merchant vessels, thereafter to be appointed, and that they be duly licensed for such offices accordingly. And, further, prohibiting all ship-owners and merchants from insuring above nine-tenths of the value on their vessels and merchandize.



Which measures, if carried into effect, we are satisfied will be attended with great increased safety to our lives, a vast and incredible diminution of shipwrecks, and a great increase of the national prosperity, and will insure your honourable house the lasting gratitude of British seamen. May it therefore please your honourable house to cause such an act be passed accordingly.

And your petitioners will ever pray, &c.

SHIPS AND VESSELS OF WAR ON LAKE ONTARIO AT THE COMMENCEMENT OF THE PEACE.

Particulars of Vessel.	St. Lawrence.	Prince Regent.	Princess Charlotte.	Montreal.	Niagara.	Star.	Magnet.	Charwell.	Netley.	Psyche.	Two New 7th, never launched
How Rigged	Ship	Ship	Ship	Ship	Ship	Brig	Schr.	Brig	Schr.	Ship	Ships
Length { Keel	171'6"	150'0"	121'6"	107'0"	87'0"	61'6"	60'0"	60'6"	60'6"	121'10"	172'0"
Length { Gun Deck	194'2"	160'9"	126'9"	101'0"	72'10"	71'9"	70'0"	71'9"	71'9"	130'0"	192'8"
Breadth Entered.	52'7"	43'0"	37'4"	30'10"	27'7"	24'3"	22'0"	23'8"	21'0"	36'7"	56'8"
Depth of Hold	18'6"	9'2"	8'8"	4'6"	5'0"	2'6"	2'3"	2'5"	2'0"	10'3"	10'4"
Height { Between decks	6'6"	6'4"	6'3"	5'10"	6'3"	5'2"	5'0"	5'5"	5'3"	6'6"	7'0"
Height { Gun Deck	7'0"	6'11"	6'7"	-	-	-	-	-	-	6'6"	7'0"
Height { Upper Works	5'0"	5'0"	5'0"	4'9"	4'10"	4'8"	4'2"	4'11"	5'6"	4'11"	5'0"
Draft of Water { Light Forward	12'0"	11'0"	11'0"	-	-	-	-	-	-	3'10"	-
Draft of Water { Load Forward	13'0"	13'0"	13'0"	-	-	-	-	-	-	-	-
Draft of Water { ed Aft	19'0"	16'0"	14'4"	9'10"	10'10"	8'6"	7'5"	7'6"	7'6"	-	-
Draft of Water { Aft	20'0"	17'0"	16'4"	12'4"	13'11"	9'6"	10'10"	8'5"	9'4"	-	-
Height	3'0"	2'10"	2'10"	2'8"	2'2"	2'6"	2'6"	2'7"	2'4"	2'9"	2'9"
Breadth	3'0"	3'0"	3'0"	2'9"	2'10"	2'10"	2'7"	2'10"	2'4"	3'3"	3'3"
Distance between	8'0"	8'2"	7'0"	2'10"	6'6"	1'3"	7'5"	6'6"	8'6"	6'5"	7'3"
Height from Deck	2'6"	2'0"	2'2"	1'3"	2'3"	1'2"	1'3"	1'5"	1'8"	2'0"	2'4"
No. of Boats { Lower Deck	34	28	24	24	20	14	12	14	8	25	34
No. of Boats { Middle	34	-	-	-	-	-	-	-	-	-	-
No. of Boats { Upper	34	28	16	-	-	-	-	-	-	-	-
Number and Name of Guns { Long	32 p.	27	32	24	1	1	-	-	-	26	-
Number and Name of Guns { Guns	24 p.	41	-	-	8	2	-	-	-	-	-
Number and Name of Guns { Guns	18 p.	-	-	-	-	-	-	-	-	-	-
Number and Name of Guns { Guns	12 p.	-	-	-	-	-	-	-	-	-	-
Number and Name of Guns { Carro-	32 p.	41	22	16	40	18	12	-	-	28	-
Number and Name of Guns { sides	24 p.	-	-	-	-	-	-	-	-	-	-
Number and Name of Guns { sides	18 p.	-	-	-	-	-	-	-	-	-	-
Number and Name of Guns { sides	68 p.	-	-	-	-	-	-	-	-	-	-
Total Number of Guns	112	60	42	23	21	14	12	14	9	54	-
Tons	2305	1294	756	427	186	-	-	169	143	743	2197
Built { When	108 p. 1814	11 Ap 1814	-	25 Ap 1813	July, 1809	July, 1815	-	28 Ma 1815	July, 1812	25 De 1814	-
Built { Where	Kingston	Kingston	-	Plucknock	-	-	-	-	York	Kingston	-
By whose Draft	Wm. Bell	Fr. Fleming	G. Record	F. G. Plucknock	J. Dennis	G. Record	Wm. Bell	J. Dennis	Navy Board	F. Strickling	-

COPY OF A JOURNAL KEPT BY WM. DAVIDSON, SEAMAN ON BOARD A RUSSIAN PRIVATEER.

(Concluded from page 745.)

The 26th we sailed and in the afternoon fell in with the French Frigate again, but said nothing to us.

The 27th being little winds we seed no sail that day.



The 28th we saw five fishing boats which our Tender went and spoke they were Greeks but could give us no intelligence.

The 30th boarded a French Ship from Smyrna bound to Algiers with Turks Passengers on board on which we took their goods from them and let them go.

On the 31st we came to anchor in the Island of Cushions and plundered it of every thing we could get, besides burning the Town and every Vessel in the place.

June the 2d we sailed for the Island of Paros which we plundered of a deal of Silk and burnt the Turkish Governors Castle and a new Frigate on the Stocks besides 20 Turks that had no time to make their escape.

The 3rd we sailed but seed no sail that day.

The 4th we spoke a Ragusan Polacre that told us there was a Turkish Xebeque in Scandaroon bound for Smyrna with money to pay the Soldiers besides Coffee and Rice and would sail the first fair wind which our Captain thanked him for and bid him a good voyage then we hauled up for the N.E. and off Cyprus where we knew they must pass by and on the 7th we saw her and gave chase and at 4 o'Clock in the afternoon we got alongside of her which she engaged us for an hour and half and then struck she had on board 24 Guns and 250 Men which we took on board us and sent the Prize to Malta now our Ships Company was but 65 in all. Next day at 12 o'Clock we put all the Prisoners to death. We fell in with several Merchant Vessels of all Nations and took out of them as many as made our No. 115 so that now we were ready for a fresh Cruise.

We spoke a Venetian Ship on the 12th that came from Gaffa bound for Constantinople which told us there was a Turkish Vessel had come from there bound for Rhodes loaded with Coffee and Rice had 12 Guns and 60 Men on board, that same day at 4 o'Clock in the afternoon we were alongside of her she engaged us half an hour and struck, we took all the Prisoners on board of us and sent the Prize down to Leghorn.

The 13th we put all the Prisoners to death, at 6 o'Clock in the morning and in the afternoon we seed a sail to leward which we gave chase to, and soon came up with her, she was a Greek Ship loaded with wood for the Turks. We took the Men out of her and set her on fire. So then we steered for Syria. We had not sailed many leagues before the Man at the Masthead seed two Vessels at Anchor which our Tender went in and spoke them they were Turks and had 3 bales of Silk and nine bales of Turbans we took the Silk and put the people on shore and set the Vessel on fire the other had nothing but ballast.

Next morning (the 14th) we seed three more at Anchor upon which we went in after them, they were Turkish Ships loading



for Alexandria we took all their prisoners on board and burnt their Ships at 4 o'Clock in the afternoon we put all the prisoners to death in No. 109.

The 15th it came to blow fresh from the Eastward at 2 o'Clock we seed a Ship coming down before the wind, we hove to for her she was a Greek which we let go and then we steered for Castle R—— and hoisted Venetian Colours where there was a large town without any appearance of Guns about it as we came within Gunshot of the place we fired in amongst the houses and nauled down the Venetian Colours and hoisted Russian and all hands went on shore and plundered them of every thing they had besides burning one half of the town and killed all the Turks that did not get away as for the plunder we had no one can tell as there was a deal of Gold and Silver such as images and Candlesticks.

The 16th we went out and spoke a french Brig that came from Smirna bound to Marseilles loaded with Wood and hemp.

Next morning (the 17th) a Venetian Polacre that told us there was three Turks Ships in Alexandria loading with Coffee and Rice for Constantinople upon which we bore away for Rhodes and we knew they must pass by there we cruized off and on that day without seeing any thing of any kind.

The 18th, at daylight, we seed 5 sail close in with the land, and went in after them, thinking they were good prizes, but to our misfortune they proved to be Turkish men-of-war, one of 50 Guns, one of 44 Guns, and 3 of 16 Guns each. They came chase to us, and at 7 the Frigate came alongside, upon which the Captain wanted to engage, but the Lieut. would not, until the others were farther astern; when they were three miles astern of us, the Frigate kept continually firing at us; then at  $\frac{1}{2}$  past 10 we hauled the french colours down and hoisted Russian, and engaged her, and shot away her fore-top-sail yard, when we tried for to go down for the others, but before she got from under our Guns we had the luck for to see her on fire; by this time the others got up and gathered round us, which caused us to fill the train we had to the Magazine to blow her up, if any of them boarded us, so any one may guess the condition we was in at this time, as we made ourselves sure of being taken, but as God would have it we got as close to the 50 Gun Ships stern that our larboard Spritsail Yard arm touched her stern and we fired as fast as possible until they silenced the Guns and took to Small arms with which we killed most of their men for they did make any sail to get away from us, all their Sails and Rigging was shot away, by this time the Frigate had got her top sail yard up and came up to us which we made sail to get away but all in vain as she sailed better than us so we were obliged to engage her once more but soon disabled her by carrying away her fore top mast half down then we had the 3



small ones off for as soon as they saw the two large Ships was able to do no more, they made Sail away from us which we was very glad of as it was  $\frac{1}{2}$  past 11 o'Clock at Night and we had 17 men killed and nine wounded and all our Sails and Rigging tore to pieces our force being no more than 22 Guns and if there had been another of the same force with us we would have taken the five of them, but now we got clear of them we wished we were as clear of the cruize and the Ship.

The next day (19th) we steered for Saphanto for to get repaired.

On the 20th we got in and moored the Captain went on shore and got plenty of people to help us then we were ready for sea.

24th we sailed for the Island of Cyprus and in the afternoon fell in with a Turks Vessel loaded with Honey Oil and Cotton which we took all the prisoners and sent her to Leghorn.

Next morning (25th) put all the Prisoners to death in No. 26. In the afternoon we took a large Turkish Ship loaded with Cotton hemp and Coffee besides ready money with 31 hands on board of her, we took the prisoners on board of us and sent the prize to Leghorn.

Next morning (26th) at 10 o'Clock we put all the prisoners to death.

The 27th, the Captain ordered that for the future they should be put to death at the Head as there was such dirty Decks with them always; in the afternoon we took a small Vessel loaded with Nuts which we sunk people and all together in No. 17, then we steered for Jaffa to see if we could get any water but we had not got only 12 Butts of water filled when we saw about 2000 Turks and Moors coming down on Horse back upon which we were obliged to have our Tender close in shore to cover our men, the time they got the water, but before we got it all on board we had 3 men killed, but how many of the Turks we cannot tell as we could see a great number of their Horses fall with the shot from our Tender, as soon as we could get the water stowed and the Ship clear, we got under weigh and steered for Alexandria.

We seen five sail which we gave chase to on the 29th came up with them we took two but the other three got on shore. One of these we took was a good prize loaded with Cotton and Silk, besides a great deal of Money the other was loaded with coffee and Rice, but as we could not spare hands to send them down to Malta or Leghorn we took the best of every thing out of them and sunk them people and all together in No. 37. In the afternoon we spoke a Venetian Polacre which told us there was seven Sail of Algerine Xebequas a cruizing in the Arches for us.

On the 30th we sailed for the River of Nile as it was the best way for to keep from the Algerines and besides a good Place for to Cruize in at Night we took a small Vessel loaded with wine and



Soap we took the wine and Soap out of her and sunk her people and all together in No. 11.

July 1st. We got to Dametta in the River of Nile and went in and made two large Ships and two small ones our prizes without the least defence, but before we could board them almost all the people went overboard and swam on shore, these Vessels were loading with Coffee and Rice for Constantinople we loaded the two largest with what was in the others, and sent them down to Leghorn, which made us short of hands after we had manned the two prizes.

July 2d. We sailed for Cerigotto to get more hands and burnt the Ships we did not take at 4 o'Clock we took two good Prizes that came from Scanderoon bound to Rhodes with honey, soap, and Oil, we took what we wanted out of them and sunk them people and all together in No. 28.

3d. We took a large Ship loaded with Sheep and Cattle Turk's Property but Greek Sailors they entered on board us then we took what we wanted out of the Prize and sunk her.

On the 4th we got into Cerigo that same day we got our water on board and 30 more Men.

Next morning (5th) we were ready for Sea and at 9 O'Clock we sailed with a fair wind for Salonica.

On the 6th we seen a large Ship to leward of us which we gave chase to and at 6 O'Clock we came up with she proved to be a Turk from Alexandria to Constantinople with Coffee Rice and hemp, she had 20 Guns and 200 Turks on board she engaged us for 2 hours and  $\frac{1}{2}$  after having 23 hands killed and 19 wounded and we had 5 killed and 13 wounded we took the Prisoners on board of us and sent 14 hands on board the Prize and sent her down to Malta.

Next morning (7th) at 6 o'Clock we put all the Prisoners to death in No. 177. In the afternoon we spoke a Ragusan Polacre could give no intelligence of any Turks.

On the 9th we took a small Vessel (a Galley) that had been sent out as a spy for us, she had 86 hands and Small Arms on board the same afternoon we put all the Turks to death but one Man which we put on Shore on account he told us there were 3 Sail of the line and 5 Frigates besides a great many Xebusques in the Island of Rhodes only waiting for the Russians to go up the Arches to get behind them.

On the 10th we bore away for Syracuse in Sicily to see if we could get any Vessels to go with us, before we could go up again.

On the 11th we spoke an English Ship from Leghorn bound to Smyrna who told us there was three Russian Privateers ready for sailing there. In the afternoon we spoke a Venetian Ship from Genoa bound to Alexandria but would not give us any News.

On the 12th we fell in with two Maltese Frigates a cruising.



On the 13th in the afternoon we got into Syracuse where there was three Russian Privateers ready for Sea one of 18 Guns and two of 20 Guns each.

On the 14th we got the water and Provisions on board and every thing ready for Sea next morning there came into the harbour two Privateers from Treisty and in the morning at 6 o'clock there came in three that was at Leghorn which made us in number 9 Sail the least mounting 16 Guns and the Commodore 34 and now we thought ourselves able to attack the Turkish fleet although they had 3 Sail of the line and 5 Frigates besides Xebeques.

The 16th we got every thing ready.

The 17th we sailed at 10 o'Clock in the morning for Malta and on the 18th we fell in with two Maltese frigates we had seen on the 12th and they went up with us in hopes to meet the Turkish fleet, we cruized off the Island of Rhodes for 5 days but they were afraid to come out in the mean time one of the Maltese frigates went into the Harbours Mouth and fired a shot at them lying at Anchor but all to no purpose for they would not come out.

The 25th we went round the S.W. part of the Island where we sent all our boats on Shore to get stock but could find nothing but Goats and then we took as much as we wanted as there was plenty of them on the Island.

We all parted on the 26th some for Barbary some for the Coasts of Syria, and Egypt, and we for the Coast of Moreo.

The 27th we spoke a Ragusan Polacre come from Venice bound to Smyrna but would let us know nothing of any Turks.

Next morning (the 28th) we seen a Large ship close in under the Land which we made sail after thinking she was a Turkish frigate, so we got every thing ready for engaging her but she proved to be a French Frigate which we spoke and he told us that he was looking out for a Pirate that had done a deal of mischief upon that Coast and gave a description of her—when we made sail to the Northward and the Frenchman to the Eastward.

The 29th we spoke a Venetian Ship that had been chased into Cerigo by the same Pirate. The 30th we made the Island of Cerigo and cruized off there three days but saw no Vessel of no kind which our Captain said was on account of this Pirate.

August the 3rd we seen a large Ship close to the West side of the Island Which we steered after but to our misfortune found it was the Pirate for she engaged us from 10 o'Clock untill 1 past 3 in the Afternoon when she hauled down her Colours after having 54 men killed and 143 wounded she mounted 32 Guns 9 Prs. and 16 Prs. and 378 Men on board but they were all of different Nations which made them very much confused in time of Action, at 6 o'Clock in the Afternoon we took all the Prisoners on board of us and confined them in the Hold till next morning then our Captain examined them and they confessed they had taken many Vessels



of all Nations and killed the People and Sunk the Vessels after they had plundered them of every thing worth taking then our Captain told them they should all be put to the cruelest death ever could be invented, so we did for next morning we got whips to the Main Stay and made one leg fast to the whip and the other to a ring bolt in the Deck and so quartered them and hove them over-board as for the wounded we put them to death as soon as they struck.

The 16th we washed the Ship fore and aft, above and below and went into the Island of Zante where we sent all our wounded Men to the Hospital, then we got every thing ready for Sea again, but the next morning there came an Order from the Russian Consul at Trieste for us to come there and join Commodore Wm. Gill-mains Squadron.

In the afternoon of the 1st Sept. at 4 o'Clock we got under weigh for Trieste with a fair wind, we spoke several Vessels of all Nations, we spoke the Ambuscade Frigate Capt. O'Haro come from Leghorn bound to Smyrna, off the Island of Corfu on our passage we had fair weather.

The 6th we got in and after riding Quarantine got Pratique when the Ships was ordered into the Mole to be repaired as quick as possible in the mean time the Englishmen that were on board got their Discharge and their Wages, with their plunder besides, which came to 950 P. equal to 250 Pounds Sterling a Man and was only on board from the 1st September 1788 to 10th September 1789.

FINIS.

[In the course of this cruize you may calculate upon the death of 1670 People exclusive of what were killed on Shore and in the Grand Action with the Turkish Men of War. The above was written as an exact copy of the Original.]

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## MISCELLANEOUS INTELLIGENCE.

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### LOSS OF HIS MAJESTY'S FRIGATE CHALLENGER.

(To the Editor of the *Hants Telegraph*.)

It will be in the recollection of your naval readers, and perhaps not devoid of interest to others, to state that the Challenger sailed from Portsmouth on the 20th of October, 1833, with the Consul-General for Chili, and the Consul for Coquimbo, as passengers; and, after touching at Madeira, Rio de Janeiro, and East Falkland, arrived at Valparaiso on the 16th February, 1834.

Having visited the intermediate ports of Chili, Bolivia, and Peru, she sailed from Puna for the Sandwich and Society Islands, and, after remaining seventeen days at Oahu, one of the former, and eighteen days at O'Tahiti, of the latter group, she returned to Valparaiso on the 25th October, having in twelve months traversed a distance of 44,240 nautical miles.



After again proceeding to the intermediate ports, she sailed from Coquimbo on the 5th February, 1835, with a freight of money, with which she arrived at Rio de Janeiro in thirty-three days.

On the 1st of April she again sailed from Rio de Janeiro to resume her station on the west coast of America, but whence she was not destined to return. After baffling and contrary winds, we were off Cape Horn on the 29th, in lat.  $58^{\circ} 47' S.$  when blowing heavily, and a sea having done some damage abaft, she was hove-to for some hours under snug sail.

With little intermission, it continued to blow a gale till 9th May, and the necessity of carrying sail during this period proved, to the admiration of all on board, the properties of the Challenger in bad weather.

On the 17th, the weather becoming fine, we got up topgallant-masts, crossed topgallant-yards, and made sail: course  $N. 39^{\circ} E.$ , lat. obs.  $41^{\circ} 41' S.$ , long. by chronom.  $80^{\circ} 43' 30'' W.$

On the 18th the course was  $N. 51^{\circ} E.$  with fresh breezes, at times squally and hazy—no observation. The following day, the 19th, no observation; but good sights were had for the chronometers, which tended to confirm the ship's position on the charts, distant from Talcahuana, the port we were bound to, about fifty leagues. Course steered,  $N. 39^{\circ} E.$  At 4 h. 50 m. P.M. up courses and hove-to, bent cables, and tried soundings in 200 fathoms: no bottom. At 5 h. 20 m. filled, and set courses. At 8 h. 10 m. fresh breezes and hazy, but stars at times visible; braced sharp up, the ship's head  $N. \frac{1}{2} E.$  8 h. 30 m. set jib. 9 h. 45 m. observed breakers on the lee-bow; the helm was instantly put down, the captain flew upon deck, calling "all hands about ship" in his way, in time to order the after-yards to be hauled, but, before the head-yards were trimmed, a surf struck the ship's larboard-bow: she lifted to the heavy swell, got stern way, and in four or five seconds struck with a dreadful crash, her keel taking the rocks just before her mizen-mast. A second shock immediately followed, which threw her on her starboard beam-ends, the surf at the same time making complete breaches over her, in a body sufficient to wash the men overboard; and it appears next to miraculous, that, with the difficulty of now holding on, and one watch only just out of their hammocks, that no lives were lost, or greater injuries sustained, than the severe bruises received by two men who were thrown over the wheel. She was now rocking and rolling on both beam-ends, and the lifts being gone, the main-yard was swinging alternately on each side, and hanging parallel with the shrouds; the main-mast, at the same time, when upright, repeatedly lifting a considerable height, and settling down again. A few short minutes had produced this awful change, and the critical moment at once required firmness, reflection, and promptitude. The silent, insidious rollers in the still fog gave no warning, and the first that was discovered launched us into the breakers, which were only now first seen. In a few seconds they were roaring around us, and the angry surf, hissing past the ship's sides, by its vivid coruscations illumined the gloom, and made more visible our frightful situation.

By the cool and judicious decision of cutting away the mizen, and keeping the anchors fast, the ship rolled over the rocks, and righted in the sand; whereas had she been checked by an anchor all must have perished near the spot where she struck.

The water now appearing dark within the breakers, another danger, in wave-like succession, seemed to follow, rendering it apparently indispensable to let go the anchors, to save the ship from foundering in deep water. These fears were by degrees quieted, by watching the hand-leads, and finding the ship more and more embedded in the sand, though quick and shifting, and the anchors were still kept fast; the prudence and good fortune of which step, day-



light fully proved. The steady conduct of the crew in this extremity of danger merits the greatest praise; although every heart must have quailed, there was no confusion, nor the least excess committed. If, on the contrary, under the influence of fright, any rash attempts had been made to quit the ship, many lives would have been sacrificed, since none could see or tell the fate of those who went before, and such attempts must have proved fatal.

Shortly after striking, the rudder was carried away, the gun-room beams and cabin-deck forced up, and the water, coming in astern, flooded the gun-room and officers' cabins; and the ship appeared evidently to be bilged, the timbers on the starboard side being heard to break with a fearful crash.

The main-deck ports had been caulked in for the voyage, and fortunately remained so; the main and lower deck hatchways were battened down; still it was necessary to scuttle the lower deck, from the quantity of water taken in over all. Owing to her drawing through the sand, the hand-pumps, by constantly going, kept her sufficiently free to admit of a considerable quantity of dry bread being got up, and put into water-casks. Yet, at this time, so slender was the hope of saving scarcely anything, or even our lives, that the ship's accounts, and a private packet or two, were put in a light cask, to be thrown overboard, on the chance of its reaching the shore.

Towards midnight, some officers and men thought they perceived land, and many eagerly crowded the poop, to catch a gleam for their deliverance. Blue lights were now burnt, and several rockets thrown in the direction, to assist in discerning it; but no certainty was arrived at till after the moon had risen, when, at about 2 h. 30 m. A.M., the sure sight of land produced emotions which only they who felt can tell. It was the moment to teach an impressive lesson to the thoughtless, the gay, and the presumptuous. The horrors of the preceding four hours had been surcharged with the torturing apprehension of lingering death; and dark and desponding must be that mind which, at such a crisis, could not derive some solace in the hope of succour from Him who governs the storm, and alone has the power to save.

At daybreak, the shore presented a long flat sandy beach, with a tremendous surf extending to the south, a distance interminable to the eye, and in the W.N.W., bounded by a headland and projection of rocks, between two and three miles distant.

To land the crew was the first object, and measures were taken accordingly. The night had been partly occupied in preparing the jolly-boat and gigs as life-boats; the first of these, with a mate and brave picked crew, succeeded in landing through the dangerous surf, taking with them the end of the deep-sea lead-line; but, in attempting to haul on shore a hawser attached to it, their strength was found unequal to counteract the surf, and a current sweeping along shore from three to four knots. The first gig was therefore launched over the stern, to afford assistance; but the heart-rending sight of her fate again damped the hopes of all. She broached to, was capsized, and whirled over and over by the surf, when Mr. Gordon, midshipman, and John Edwards, seaman, were either carried to sea by the back-set, or buried in the sand, the bodies never having afterwards been found; the others were taken out of the water, nearly exhausted, more than three quarters of a mile to the southward.

At 6 h. 40 m. this morning, (20th,) to our astonishment, a ship was discovered through the haze, three or four miles outside the breakers, standing directly for the land. A main-deck port was now opened, two guns fired, and an ensign hoisted, Union downwards, as a signal to her. She tacked and stood off, hoisting Swedish colours. She could render us no assistance, and little doubt can exist that we were the hapless beacon of her danger; another hour's dark night might have placed her alongside us. At 8 A.M. cut away the fore-



top-mast. Two rafts having been prepared with masts, spars, yards, mess-tables, casks, &c., at eleven the first was hoisted over the side, with a lieutenant and seven men, and carrying a kedge, hawser, and hauling-line, reached the shore with difficulty far to the south, and was thrown so high upon the beach that she could not again this day be launched. About 2 p.m. the second raft was hoisted out, with the first lieutenant, and another party, with several young gentlemen, secured to it by life-lines, taking a few provisions in casks, and necessaries for those on shore. This raft reached the beach with less difficulty; but, in the attempt to make a second trip, the surf upset it under the stern, and one seaman who jumped upon it, was a long time in great peril, whilst it drifted back to the shore. At 3 p.m. the cutter, with spars lashed to her, left the ship, and landed safely, although nearly filled with water. The officers and men now landed amounted to only about fifty. All hands, from excessive fatigue, and drenched with water, required relaxation; but, to those on shore, on a desert sand, wet to the skin, and without refreshment through a bitter frosty night, much comfort could not come; and their minds being under great anxiety as to the fate of their shipmates still on board, a regular watch was kept upon the beach.

The Captain had written a letter to his Majesty's Consul at Concepcion, of which the Assistant-Surgeon and Clerk of the Challenger had offered to be the bearers. To find a fit person to conduct these gentlemen in an unknown country through woods, across rivers, along roads, in places almost impassable, was an object of great interest; but which the suspicious countenances of the Indians, and the impossibility of being understood by them, afforded little promise of accomplishing.

By a most fortunate accident, Camilo Hermosillo, a Spanish Chileno, holding a distant farm, happened to come near the place of wreck, to purchase cattle, and this honest man gave the clew to all our future correspondence. After some negotiation and fair promises of reward, and being piqued upon his Castilian blood, he undertook to become guide, and procure the necessary horses. From this person we obtained the first outline of our real situation.

We were informed the place of our shipwreck was Molguilla, in the province of Arauco, sixty leagues south of Concepcion, and about thirty-six or thirty-eight miles from the island of Mocha; and, by observations afterwards taken on shore, with an artificial horizon, in lat.  $37^{\circ} 48' 48''$  south, long  $73^{\circ} 34' 30''$  west. It lies at the extreme southern verge of that portion of the Indian territory in which the Indians acknowledge the authority of the Chilean Government; and, under its influence, the Caciques had, for twelve months previously, been waging war with the more southern Indians of Tucapel, Tirua, and Imperial. We also learnt, that on the 20th of February last, the city of Concepcion had been totally destroyed by an earthquake; since which shocks had been continually felt upon the coast, which we soon experienced, particularly one on the 30th, during a northerly gale, with rain, that caused the candles on the officers' tent table to vibrate a foot or more. Our position on the beach was described as untenable, and we were recommended to take the highest elevation the small sand-hills on this extensive flat afforded, to secure ourselves from the rising of the sea, which in three days after rose far above the spot where we were now standing, and level with the base of the small sand-hills, of scarcely eight feet elevation, on which we were encamped.

Having, at about half-past four, with great satisfaction, dispatched our party for Concepcion, we began to contemplate our misfortunes, which, though mitigated by escape with life, still left us in a situation far from enviable. Bounded in our rear by a marsh which the rainy season, now at hand, would convert into a lake; the ocean in our front, rising occasionally within little



more than a hundred yards of our camp, and which, from the effect of an earthquake, slight indeed, compared to that which so recently occurred at Talcahuana, when the sea rose many feet, might have swept us away; and the probability of a visit from the hostile southern Indians, who, the two preceding years, had plundered off every article from the unfortunate crews of four merchantmen wrecked upon the coast, left us only the uncheering prospect of equivocal hospitality from our northern neighbours—a barbarous race, who murder the adults, and sell for slaves the infant children of their captured enemies.

Happily, however, the weather favoured us, and, by throwing overboard guns, and other heavy articles, backing up the stream and kedge anchors with gun-slides in the sand, and hauling in upon our cables, by the influence of the surf, and great exertions at the pumps, the ship was raised sufficiently on the beach to admit of a stage being constructed from the stern, with lower-yards, spars, &c., by which we were enabled to land provisions, arms, ammunition, and other stores, and thus, for a time, to rely upon our own resources for subsistence and defence. The labour attending these operations, the men constantly wet through, and having at the same time to pitch a camp, the naval reader, at least, will well comprehend.

On the 21st we had been visited by the neighbouring Cacique Cheuquante, with a considerable retinue of Indians, and a Spanish interpreter; he offered assistance against the southern Indians, of whom they always evinced great dread. Although the disinterestedness of these offers was prudently estimated, policy enjoined address and conciliation, to cultivate their confidence and good opinion, and the Captain, keeping in view these considerations, accepted the services of a few as look-out men; but, on the 23d, their spears, amounting to twenty-seven, formidable enough truly in appearance, being bamboo canes, with iron points, twenty-five feet and upwards in length, apprehension was felt by the crew lest they might be augmented to hundreds, and we become victims to treachery.

This immediately reached the Captain's ear, and, without loss of time, he summoned the men in camp around him, explained to them the better motives of the Indians, yet pointing out the propriety of observing distance with them, and, that his orders would exclude them from communication with our camp; that his determination was to assume the best possible state of defence, and to maintain our position, in the event of an attack, until information might arrive from the Consul to govern our movements; and that, as British seamen, he felt confident they would shew by their obedience and good conduct their title to that character.

This short and well-timed address dissipated their misgiving, and forcibly exemplified the general confidence which the mild exercise of authority is calculated to inspire. The men were satisfied, retired cheerfully to their tents, and their hardships and privations in camp, although extended to a period of seven weeks, never afterwards excited a murmur.

The next day proved what the stimulated energies of British seamen can accomplish; they forgot their former fatigue, and "turning to" with a good will, boats, spars, cordage, casks, the boats, guns, and every description of stores useful for defence, were carried on their shoulders, and laboriously dragged over the heavy sand; and the fortified state of our camp, by digging trenches, constructing barriers and platforms for the boats, guns, and bringing aft the long guns on board, to flank our encampment, reflected credit on every individual sharing in this day's labour. Our works were afterwards improved; and, although the bravery of the Indians should not be despised, they would have bought a severe lesson by attacking us. Still regret must have attended



any sacrifice in such bootless warfare ; and we have just reason to conclude, that their knowledge of our prepared state constituted our security from molestation.

On reaching Arauco, our officers were received with great kindness by the Government authorities, and Don Bernardino Camilo, a captain of militia cavalry, with twelve men, were immediately ordered to Molquilla, the place of wreck, where they arrived on the 24th, with a view, as the Spanish dispatch of Don José Bustamante, to the Minister of the Interior, afterwards expressed, "to prevent robbery and extortion, and to aid in resisting any attack that the Indians might be induced to make from the attractions this misfortune might present to them for pillage." This party was accompanied by the Cacique Pinoleu, his wife, and daughter, with an escort of several Indians, all mounted. He presented the Captain with a small ox, supposing us to be straightened for provisions. A few presents to the ladies in return, were accepted with much apparent satisfaction. Pinoleu is the brother of Colipi, the Cacique who, with the aid of 100 carabineers of Arauco, had been fighting, and keeping in check Cadin, the hostile Cacique of Tuscapel and Tirua ; and, after going through some spear evolutions in the presence of three other Caciques, arrived from Arauco, and treating us with their war-whoop, the Indians attached to our camp were for two days withdrawn, to assist in this service.

On the 29th, blowing a northerly gale, with rain, the ship worked so much that a separation of the decks from the lower part of her was feared. The foremast was cut away, and the larboard sheet-anchor let go ; the mainmast and bowsprit only being now standing. The gale continuing on the 30th, and there being eight feet water in the hold, it required hard work at the pumps to get most of the remaining provisions on the lower deck. Just before one this morning, Don Bernardino came to the camp with information, brought by a horseman just arrived, that the Indians had yesterday been fighting near us, and might shortly be expected, recommending strictly to guard against their insidious mode of attack, particularly about daybreak, and, like them, "to sleep by day, and watch by night." The seamen and marines were immediately under arms ; the Captain made his dispositions of the force in quarter watches, each under an officer, and gave orders as to the plan of defence. Rockets, blue-lights, and fire-balls, were in readiness, to throw amongst the horses ; fires kept in, and torches burnt ; the officers, till daylight, parading the camp with lanterns. The party on board, under the Second Lieutenant, were equally on the alert, firing a great gun, shotted, to aid the demonstration of our watchfulness. At daylight, tea was made for the crew, who then rested an hour or two.

From this period till the 8th of June, when the ship was finally quitted, on the removal of our encampment, little could be done beyond retaining her as a *point d' appui* to our camp, or perhaps of retreat, if necessary.

Mr. Rouse, the British Consul, arrived at our encampment, with Lieut.-Col. Don Geronimo Valenzuela, the Governor of Arauco, on the 31st of May ; and their arrival was hailed as the dawn of our deliverance. A consultation was immediately held, and the insurmountable difficulties which the state of the roads at this season presented to the march of so large a crew to Concepcion, (a distance of sixty leagues,) it was determined to move to the mouth of the river Leibü, about eighteen miles north, and there await the means of embarkation. To proceed this short distance only, a sufficient number of mules and horses could not be collected without sending to Arauco, 120 miles distant.

We now commenced the month of June with fresh stimulus to exertion. The Second Lieutenant was dispatched to Concepcion, to ascertain the probability of early assistance from any man-of-war, or of engaging any other vessel



capable of embarking the crew. A dispatch had in the first instance been sent through the Consul at Concepcion, to the Consul-General at Santiago, and another to the Commodore, to await his arrival at Valparaiso; which place the intelligence of our shipwreck did not reach till the 18th of June, thirty days after the event. Some pieces of the ship's bottom this day washed on shore.

On the 2d of June the first detachment, under the First Lieutenant, moved forward, with tents, and other requisites, to commence an encampment at the mouth of the Leibü river. On the 3d, every mule that could be mustered was sent on with stores, camp baggage, and provisions, and the following day the sick were removed.

This evening, Lieut.-Colonel Valenzuela received a letter from Arauco, to inform him that 600 Indians, under Cadin, were within two days' march of us, and 2,000 more assembled on the hills to support them. We were therefore again on the *qui vive*.

On the 5th and 6th of June other detachments followed, and on the latter day the Captain and officers distributed their cabin furniture, and many other acceptable presents, amongst their Spanish-Chileno friends.

The 7th of June, all tents were struck at daylight, but the mules failing, a well-appointed rear-guard was left with the Third Lieutenant; and, soon after noon on the 8th, all quitted a spot, the scene of which embittered every recollection.

The situation of the present encampment was the direct opposite of the last. From a flat with deep sand, we were now on a steep acclivity, in the niche of a thick wood, and the weather being very wet, and the soil greasy and slippery, it was difficult to preserve a footing. The river Leibü ran into a bay about 200 yards below us, whence the men brought large stones to make a footpath, and trenches were dug, to drain the camp. With stones also a wharf was formed, and a derrick raised ready for embarking. The large trees around were felled, and the brush-wood cleared away, and a formidable ring fence made to guard against surprise. On a steep eminence flanking the south, a flagstaff was erected, a jack kept flying, and wood constantly cut for fires, as signals.

This occupation wiled away the time, and kept the men's thoughts employed; but rainy, tempestuous weather frequently confined them to their tents, in which neither bedding nor clothes could be kept dry; the sick list was rapidly increasing, and typhoid symptoms evident; provisions wasting; supplies, from bad weather, precarious; and the period of release uncertain. These desponding considerations could not be contemplated without apprehension. Amongst these evils might be enumerated the pest of a large species of mice, with prominent eyes, and lizard-like feet; they swarmed at Molguilla, but at this place the number of these destructive marauders can scarcely be conceived; the hundreds daily killed made no difference, they devoured every thing, and the noise at night, caused by their running over our tents, resembled the falling drops of rain in a heavy shower.

On the 23d, towards midnight, "Challenger" was hailed from the opposite side of the river, and, on the return of the boat, all hearts were gladdened by the presence of Captain Fitzroy, of his Majesty's brig Beagle. This gallant officer, associating with the true spirit of philanthropy, a sense of paramount duty to assist the crew of one of his Majesty's ships in distress, quitted his ship, to accompany Commodore Mason, in his Majesty's ship Blonde, to Concepcion, whence he travelled on horseback with the utmost speed to our camp, and, having made the necessary arrangements with Captain Seymour, the next morning set off, and with the same dispatch returned to the Blonde. Less than an acknowledgment of this gentleman's kindness would be ingratitude; but, in



deference to that noble feeling which is above praise, we leave Captain Fitzroy in the full enjoyment of those pleasing reflections which the result of successful exertion, originating in the pure source of benevolence, cannot fail to impart.

On the 26th, a report being circulated that the wreck was burnt, an officer was sent to Molguilla, and ascertained that two days before, it had been burnt to below the copper, the mainmast burnt in two, and part of it washed on shore; the shell of the bottom, and a small part of the head, being all that now remained to be seen of that fine ship. Some tanks washed on shore were carried away by the natives.

From the 23d, expectation was kept at its height, until Sunday morning the 5th of July, when "a sail" was reported from the flagstaff. All ears were open, and every eye directed towards the hill, and when "Blonde" was hailed to the camp, a cheer followed, and every heart expanded with joy.

Four boats immediately left the Blonde for the camp, in preparation for the morrow. The next morning she anchored on the skirt of the bay, tents were struck, and the embarkation commenced at daylight. In the forenoon, the Commodore himself visited the camp, and soon after sunset all were embarked; and the officers will long cherish recollections of the very kind attention paid to their wants and comfort by the officers of the Blonde.

On the 8th July, when about to enter the port of Concepcion, we observed a schooner to leeward, under jury-masts; on going to her relief, she proved to be the Carmen, which the Commodore had dispatched from this port to our assistance. She had been seen from our flagstaff, but the river Leibú being incorrectly laid down in the charts, she ran past, and having been dismasted in a squall, and getting within the current that proved fatal to the Challenger, was for some time in danger of sharing her fate. The Blonde towed her into Talcahuana Bay, where, and at Concepcion, we were eye-witnesses of the wide-spreading desolation occasioned by the late earthquake.

On sailing next day, Mr. Rouse, our worthy Consul, left us, carrying with him the warm esteem of Captain Seymour and his officers, and the respect of all. For the whole time since his entering the campaign with us, we had benefited by his able services. Added to his official tact, his urbanity and kind disposition have deservedly endeared him to all classes; and, should his assistance be called for under a calamity similar to our own, the unfortunate will find an efficient friend in the British Consul at Concepcion.

After touching at Valparaiso, all the officers, and part of the Challenger's crew, embarked on board H.M.S. Conway, at Coquimbo, whence we sailed 23d July, cheered by the Blonde, and our own pleasing anticipations of soon meeting the congratulations of our friends, and the sympathies of our generous countrymen. Including our stay of one week in Rio de Janeiro, we completed a passage to Spithead in eighty-four days; during which, the inconveniences of a crowded state were obviated by attention to our accommodation, and the arrangements kindly made by Captain Eden.

Amongst the sick during this period, of whom the young gentlemen formed a large portion, Mr. Lane, Assistant-Surgeon, and Mr. Fry, Supernumerary Clerk, died; the others, with a few exceptions, soon became convalescent.

The misfortune of the Challenger may not be without a moral bearing. Our costly experience may prove useful to future navigators upon this dangerous coast. With the civilized portion of the inhabitants of a country of growing commercial importance, the British character has been upheld; and the many relics of our disaster left with the rude natives during our long sojourn amongst them, will tend to perpetuate the event, and in their remote traditions may figure as a leading tale--the fate of the "Desafiador," and the adventures of her crew on the plains of Molguilla.



## ADMIRALTY COURT DECISIONS.

**THE GEOROLIMO: LIABILITY OF FOREIGN SHIPS.**—The King's Advocate and Dr. Adams, were this morning heard on the part of the respective parties in this suit.

Sir John Nicholl, in delivering the judgment of the Court, stated, that this was a case of very considerable importance to the mercantile interest of the country, and on that account it had received the fullest consideration from the Court. It was a suit brought to recover compensation for the damage done to a British vessel, "The Edward," by an Austrian vessel, called "The Georolimo," which had run foul of the former. On the 25th of April, in the present year, an action was entered for 200l. The vessel was refitted, and a bill was given for the amount, but under protest, and the vessel was then released.

The grounds of the protest were stated clearly in the act of Court, and were in substance as follows:—It was stated on the part of the Georolimo, that on the 25th of April, the brig being destined for a voyage from London to Trieste, left the London Docks with a duly licensed pilot, and the vessel was delivered into his charge. That a short distance below Woolwich the brig came in contact with the ship Edward, which rendered it necessary for her, in consequence of the damage she had received, to return and undergo repair, and she arrived at Blackwall for that purpose. The action was brought to recover compensation for the damage which was done at the time of collision. On the part of the defendant it was submitted, that under the 1st Geo. IV. c. 72, he was not liable to the amount of the damage. That was the ground of the protest.

The answer given in on the part of the Edward was, that the Georolimo was a foreign trader; that the owner was an Austrian subject, and that, under the 1st and 2d Geo. IV., the owner was amenable for damage in this Court; that foreign ships were not compellable to take a pilot, and that the penalties can be enforced against the foreign owner; that at the time of the accident the morning was extremely thick and foggy; and, in conclusion, that the Georolimo was liable to the damage. On the part of the foreign vessel, the reply was, that she was not going down at a rapid rate; that she was conducted by a steamer of only 20-horse power; that she was engaged by the pilot, and that the fog did not come on till the vessel was below Blackwall; that the vessel only drifted from three to four knots an hour.

To this a rejoinder took place on the part of the Edward, asserting that it was customary in foggy weather to bring up; that it was not impossible for the brig to bring up when she was from a quarter to a half a mile above the place of collision. These were the substantial facts of the case. With respect to the protest, as it did not appear to be founded on sufficient reasons, he thought that the Court, for the purpose of preserving the regularity of its proceedings, should, in the first instance, overrule the protest; but, as it might be matter of convenience to the parties to arrive at the opinion of the Court, and as the property was of small amount, (the action being entered, and a bill given for 200l., and the ultimate damage might appear to be even less than that,) it seemed desirable, at all events, to enter into the consideration of the several points which presented themselves in the case, and they gave rise to more than one material question. Taking the protest as overruled, it might be proper to inquire whether damage had been done for which either the ship-owners, or person in charge of the vessel, were liable to make compensation. The fact did not raise any doubt respecting the usual custom of the seas, nor did there arise any question about skill in seamanship, nor was there any doubt which of the two vessels, if either, was deficient in proper caution and care; for one of the vessels was at her moorings, the other in motion. The vessel in motion was bound to



steer clear, and avoid the vessel at her moorings. Nothing could excuse her from making compensation for the damage done, but an unavoidable accident, —nothing but circumstances such as no human skill or caution could have prevented. What, then, was the fact, as admitted on the part of the defendant himself, without inquiring at present whether the owner, master, or pilot was to make compensation? Here was a vessel in an extremely thick fog, driving down the river at the rate of from three to four miles an hour, and running against another vessel lying at her moorings, with a number of female convicts on board. The fog was so thick, that though she dropped her anchor, the vessel did not stop till she struck the other. The *Edward*, a vessel of above 400 tons burthen, was not perceived by the *Georolimo*, until she could not possibly avoid her. It seemed to be admitted, that if the fog had existed at the time the vessel sailed from the dock, it would have been improper for the master to have commenced going down the river; but the fog came on soon after she had passed Blackwall—viz. several miles above the place of collision, which was below Woolwich. Was it not the duty of the person having the charge of the vessel to have brought up? There were places, notwithstanding the depth of water, where a vessel might be safely brought up. That was proved by the fact of the *Georolimo* having a steamer going before and towing her. She might have been, by the assistance of the steamer, in a governable state; and yet it was stated that the tow-line was left loose, and the vessel was suffered to drift down, so that she could not in time answer her own helm. The master expressly stated, that the steamer did not in the least interfere with the management of the ship.

The vessel being thus allowed to drift down the river in this great fog, there could be no doubt that the master would be *prima facie* answerable for the damage which had been done; but it was stated, that neither the owner nor master, but the pilot only, was answerable for the damage which had been sustained. This defence was resisted to under the 6th of Geo. IV. c. 125, which enacted that the masters and owners of vessels were not responsible for damage done by default of a duly licensed pilot. There were several points which seemed to arise out of this ground of defence. In the first place, was the damage done by the sole fault of the pilot; and was the master in no degree blameable? In the next place, could this defence be set up in a proceeding *in rem*, in the Court of Admiralty, even by an owner? And, in the third place, could it be set up in the Court of Admiralty? It was by no means clear that a foreign ship was compelled to take a pilot on board. It was true that a foreign vessel was bound to pay the pilotage, but there were no means of enforcing the penalties which would be paid by the British owner. The Court was unwilling to hold that it was not the duty of a foreign vessel to take a pilot on board, not merely for its own security, but for the security of British shipping and property which might lie in the way. If, therefore, the taking a pilot could be considered as a voluntary act of the master, which might expose him to repay any damage occasioned by the neglect or incapacity of the pilot, was not the master in *pari delicto*? The damage arose from the vessel going on in a thick fog; it was not from bad steerage, bad management of the sails, or want of skill or capacity on the part of the pilot, but for going on at all at this time. The fog had arisen after the vessel left the docks; had not the master a right to resume his authority? Was he not in duty bound to do so? He did not suggest to the pilot that it was dangerous, he was in a hurry to get out, and the pilot was in a hurry to get the job finished, and both were in *pari delicto*.

It might, therefore, be contested whether the master was not equally blameable, and by that means rendering himself and the owner personally liable for the damage which had been sustained. In this respect, the case, as far as he



was aware, was a new case, and one of too much difficulty to arrive at any hasty decision, or even any decision at all, provided there were not other circumstances which more safely influence the judgment of the Court. It could not be denied that before the act passed exonerating the master and owner, whilst there was a licensed pilot on board, the vessel was not exonerated in the Court of Admiralty, whose proceedings were guided by the law maritime and the law of nations. All that the legislature enacted was, that there should be no proceeding against the master and owners; but did this apply to the Court of Admiralty, which was guided by the international law? This depended upon the construction of the act of parliament, and, in the consideration of it, it might be necessary to refer to several previous acts. In the 26th Geo. III., cap. 31, the jurisdiction of the Court of Admiralty was expressly reserved. The learned Judge then referred to several acts of parliament, and said that if the fact of having a pilot on board discharged the master at common law, it could not be said to do so in this case. The parties who suffered were entitled to have their remedy against the vessel that occasioned the damage, and were not under the necessity of looking to the pilot, from whom redress was not always to be had. The owners were responsible for the acts of the pilot, and they must be left to recover the amount as well as they could. It could not be maintained, that the having a pilot on board, and acting in conformity with his directions, could operate as a discharge from all responsibility.

Two cases had been decided at common law, neither of which bore upon the present question. The terms of the act were clear and decisive, that the master and owners should not be responsible where there was a pilot on board, and a Court of Common Law could do no otherwise than hold that that was a good defence; but the Judges did not decide whether, in another Court, a remedy was not to be had against the ship. Another ingredient in this case was, that the defence was set up on behalf of a foreign ship and owner, in a Court governed by the principles of international law. Reciprocity was one of the leading principles of justice between nation and nation. It was applied in cases of capture, and was equally applicable to cases of collision. It had been recognized by writers on the law of nations, as the true and sound rule. Justice Blackstone, in speaking of international law, said that the municipal law was not sufficient to determine the extensive and complicated affairs of traffic and merchandises, nor would the municipal law of one state be regarded by the others; and for this reason the affairs of commerce were regulated by what was called the *lex mercatoria*. The rule was also recognized by Lord Stowell, 1st Dodson, 299, in a judgment which expressly stated, that the municipal law could not be set up by a foreign ship, contrary to the law of nations.

Upon the whole, he felt bound, as well from authorities as general reasoning, to state, that if the damage was owing to the pilot, still the remedy could not be had against him in the first instance in this Court, but must be had against the ship, and the proceeds of the ship, leaving the owners to seek their remedy against the pilot. He should not only overrule the protest, but refer the question of damage to the Registrar in the usual way.

**PILOT CASE.**—Lately, at the Mansion-house, at Hull, Wopke Teunis Hitman, captain of the Jonge Hendrik, a foreign galliot, appeared, to answer an information, charging that on the 10th July, he arrived at the North Ness of Dimlington, on the coast of Holderness, within the limits for which pilots are directed to be licensed, continuing there within the space of one hour, and did not display, or keep flying, the usual signal (a small flag) for a pilot to come on board; but neglected and omitted to keep such signal flying, by which he was liable to a penalty of 3l. 15s. being double the amount which



would have been demanded for the pilotage of the vessel. There was a second count in the information, charging that the defendant, on the 10th of July, arrived at Dimlington Ness, and ought to have kept a signal flying, but did not, and that afterwards a pilot named John Bowman Ellis was near his vessel, with a boat bearing the proper distinguishing flag, and the defendant did not, when the said John Bowman Ellis was within hail and approaching, heave to, shorten sail, or otherwise, consistently with the safety of the said vessel, give facility for the pilot to get on board, by which he had rendered himself liable to a further penalty of 3l. 15s. being double the amount which would have been demanded for the pilotage of the vessel.

The defendant pleaded guilty to the first count, stating, (through an interpreter,) that this was the first time he had visited the port, and he was ignorant of the requirements of the pilot act; and as Mr. Holden, who appeared in support of the information, said he should not offer any evidence in proof of the second count, the defendant's plea of not guilty was admitted. Mr. Holden said this proceeding was founded upon an act of parliament passed in the year 1832, and this was the first information which had been laid under it. The commissioners of pilotage, when it was supposed this act of parliament had been infringed, requested the parties to go before them, and they entered into a rigid investigation of the case:—if it was satisfactorily proved that the act had not been complied with, the parties had rather paid the amount, than have the case brought before the magistrates, except in one instance—that of the master of a vessel consigned to the same firm as the present defendant, Messrs. Beckinton, Wilson, and Co.—who, however, left the town before a summons was obtained for him. Mr. Holden wished it to be distinctly understood, that he did not proceed on the second count in consequence of the defendant pleading guilty to the first;—he was prepared with the necessary evidence. Mr. George Cammell, merchant, who (in the absence of Mr. Wilson) appeared for the defendant, said he had made inquiry, and ascertained he (the defendant) had never been at this port before.

The Mayor said, in consequence of that, and his ignorance of the regulations of the pilot act, the Magistrates felt it their duty to mitigate the penalty one half—(the lowest allowed by the act)—and convicted him in the penalty of 1l. 17s. 6d. with 1l. 7s. costs, together amounting to 3l. 4s. 6d.;—the Mayor also observed, that in case the money was not paid, there was a power by the act to detain the defendant.—Mr. Cammell said the sum should be paid immediately. The Mayor observed, that the commissioners had always felt great reluctance in bringing these cases forward. He had formerly been a commissioner; and if the breach of the act arose from ignorance, or there were any mitigatory circumstances in the case, they never wished the penalty to be inflicted.

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**THE ELIZA: BOTTOMRY.**—This was a question as to the validity of a bottomry-bond, executed at St. Helena in October last, for supplies furnished to the ship. The sum covered by the bond was 520l., and it bore a maritime interest of 7½ per cent. The original lender was Mr. Saul Solomon, a merchant at St. Helena, who had endorsed it over to Mr. Andrew Darling, the present holder. There was no objection to the bond on the face of it; but it was opposed on the part of Mr. John Lidwell Heathorn, the owner, on the grounds that he had an accredited agent at St. Helena, of which the lender had been cognizant at the time he furnished the supplies; that the supplies could have been obtained on personal security; that Solomon had, in fact, furnished them on the personal credit of the owner; and, lastly, that there had been fraud in furnishing the supplies, some being deficient in quantity, and the beef and pork



being Cape and American, instead of Irish, as had been contracted and charged for.

After hearing Dr. Addams and Dr. Nicholl against the bond, and the King's Advocate and Dr. Curteis in support of it,

Sir John Nicholl said, it was the general principle in all these cases to sustain the credit and force of bottomry bonds when fairly given, and when there was no ground for supposing there had been collusion between the master and the lender. In the present case, it was not denied that the vessel had been in need of supplies, having been 122 days on her voyage from Singapore, with passengers, and probably the want of them was the reason of her touching at St. Helena; nor was it denied that they had been received, except that some attempt had been made to prove fraud as to quantity and quality, which was, however, supported by evidence on which the Court could not rely. There was every appearance, therefore, of fairness in the transaction at St. Helena, and the master had certified, at the foot of the account, that the supplies had been received. Although the master now said that the beef and pork were not according to contract, no contract was in evidence, and if there had been one, it was the master's duty to see that its terms were complied with. The owner had produced no satisfactory evidence that Mr. Gideon was his accredited agent at St. Helena, nor did it appear what was meant by the term. The conduct of Gideon shewed, that he was not willing to make advances on the personal credit of the owner. There was as little proof that Solomon knew that Gideon, or any other, was the accredited agent of the owner; and so far from its appearing that the supplies could have been obtained on the personal credit of the owner, the contrary rather appeared; even Gideon had refused to cash the owner's bills. Nothing in the evidence appeared to fix fraud upon the lender in respect to the provisions; and although, where the Court saw reason to think there had been any fraudulent contrivance, it would watch the transaction with vigilance; yet, where all was fair and honest, it was bound, for the interest of commerce, to support contracts of this sort. The rate of interest was extremely low, hardly sufficient to cover the interest of money and the risk; and it might be doubted, considering the condition of the vessel, whether the master had not made an advantageous bargain for the owner. Under all the circumstances, he held that the bondholder was entitled to recover; and as the opposition had been unfounded, the Court pronounced for the bond, with costs.

COURT OF EXCHEQUER, GUILDHALL, DECEMBER 13.  
(Before Mr. Baron Gurney and a Common Jury.)

LAMBERT V. BROCKELBANK.

THIS was an action on the case by the master and hirer of the *Mary*, a schooner, against the defendant, one of the directors of the General Steam-navigation Company, the act for the regulation of that company having provided that they might be sued by one of their directors. The declaration stated, that the plaintiff was possessed of the schooner, which was sailing on the Thames, and the company were possessed of a steamer, and that their servants so carelessly navigated it that it ran foul of the schooner, and carried away her bowsprit, jib-boom, &c. The defendant pleaded the general issue.

Mr. Williams, Mr. Comyn, and Sir Gregory Lewin, were for the plaintiff; and Mr. Serjeant Bompas and Mr. Richards were for the defendant.

Mr. Williams said, the plaintiff, who had hired the *Mary*, was coming up the river on the morning of the 22d of April, 1832, with the tide in his favour. It was a foggy morning, without wind, and the vessel was towed. It kept the



middle of the channel, which was its proper course, both on account of the tide, to make the most of it, and also because, if any steamers were going down—and it was not likely at that time of tide that she would meet other vessels—the steamers ought to keep on the north side of the river. This was in conformity with the usage and regulations of the river. When, however, the *Mary* came to Limehouse-reach, nearly opposite Deptford church, she met one of the company's steamers, the *Attwood*, on her way to Calais, going down the river—not on the north side, as her course ought to have been, but in mid-channel, coming right upon her. Owing to the fogginess of the morning, no one on board saw the *Attwood* until she came close upon them, when they one and all, both in the schooner and in the towing-boat, hallooed out as loud as they could, "Stop her." The steamer, however, proceeded, struck the *Mary*, carried away her bowsprit, and damaged her. If the jury should find that it was altogether an accident which could not be avoided by either party, or if they should find that there was negligence on both sides, then the plaintiff could not recover; but if they should be of opinion that the collision was attributable to the wrong conduct of the steamer, and to that alone, then the plaintiff would be entitled to their verdict. Now, it was impossible for the schooner to get out of the way of the steamer, because there was very little, hardly any, wind, as is generally the case in foggy weather—not enough to give steerage-way; but the steamer has at all times, by its own machinery, a power of direction, and could have gone on either side of the schooner, where there was plenty of room. The schooner also was in her proper course in mid-channel, doing nothing but what, in the usage and regulation of the river, she had a right to do; but the steamer was out of her proper place, which was on the north side, as near the shore as she could go, and was where she ought not to be, and where the schooner had no right to expect her. When the people in the schooner sung out—"Stop her," the schooner chose to advance. She might have backed her engine and stopped, or she could even have gone to the south, where there was room for four or five vessels to pass; and when the schooner was doing nothing, and placed nowhere but where she ought to be, it was incumbent upon a vessel of so much power as the steamer, to have proceeded with such care as not to endanger any vessel, and to have kept, according to the rule of the river, upon the north side instead of going in mid-channel, where they must have expected to meet sailing vessels coming up the river. The damages occasioned amounted to 59*l.* 16*s.* 9*d.*, which included not only the repairs but the demurrage, pay of men, and loss of time. The plaintiff was freighter of the vessel, and bound to make good the vessel to the owners. He was not bound to make good ordinary wear and tear, any more than any of them hiring a carriage were bound to make good ordinary wear and tear; but if they drive into Thames-street, with a waggon on one side and a dray on the other side, they were liable.

James Reid, free mariner.—Was at the helm of the *Mary*, at 4 o'clock in the morning of the 22<sup>d</sup> of April. The tide was one hour within finishing of flood; the wind W.N.W., a light air. Heard a steamer coming towards us. We were going up the river; the steamer was meeting us. Our sails were flapping; we had no power at the helm over the vessel, but were merely carried up by the force of the tide. We were in mid-channel, opposite the old church, Deptford. The weather was foggy. There was the master, (the plaintiff,) two men, and a boy. We all sung out at the same time, as loud as we could, "Stop her." The steamer did not stop until it struck the *Mary*. I heard the pilot of the steamer telling us to port the helm; it was Turner—I knew his voice. The steamer struck the *Mary* on the larboard side of the bowsprit very heavy, carried away the bowsprit, and damaged both her bows. After



they were clear, they went on. The course of the schooner was perfectly right.

Cross-examined.—There was much abuse from the men on board the steamer. We grumbled a little. The steamer was aground five minutes on the north shore. Our bowsprit went before their fore-rigging and abaft the foremast, on the steamer's starboard. We were about half an hour together. The steamer was going right down the middle of the river; the tide is strongest in the middle. We could see about two vessels' length off. The pilot of the steamer cried out "Helm a-port." I kept the helm hard a-port. That would have taken us to the north shore, but there was no steerage-way at all. Our boat did not strike the steamer.

Buckley, mariner.—Was towing a-head. There was no wind to give direction to the vessel. What there was, was W.N.W. The schooner was in the centre of the river, where she ought to be. The tide was an hour and a half from high-water, the schooner going with it, at the rate of two knots an hour. About 4 o'clock in the morning, all cried out "Stop her." Turner, from the steamer, cried out "Hard a-port." I knew his voice. He cried out, "Hard a-starboard" immediately after. In about one minute and a half after that, the steamer struck us on the starboard bow, and took away our bowsprit, close off the stem-head. We saw her about two lengths before she struck us.

Cross-examined.—Our boat did not strike the steamer. I was in danger of my life: I let go the tow-rope, and rowed out of the way. The steamer grounded on the north shore, after we cleared. We were half an hour in clearing. The first blow we received swept away the bowsprit, from the larboard side.

John Watkins.—Was on the river in a boat; heard the steamer coming down; had rowed by the schooner two or three minutes before. The schooner was direct up the mid-channel; it was her proper course.

By the Judge.—The steamer might have gone on either side. There was sufficient room for three or four vessels. It was a part of the river in which we are apt to meet many vessels.

James Cockshott, waterman, saw the schooner, and heard the steamer, but could not see her for the fog; heard the schooner cry out "Stop her." There was room enough for three or four ships to pass on the south side. The schooner was going up the middle of the river.

Cross-examined.—I was going to London. I rowed close to the schooner.

By the Judge.—I turned to the left, to get out of the way of the steamer. I saw her smoke only, but not the hull.

George Blomfield, (apprentice of the last witness.)—Heard the crash; heard the schooner before that cry "Stop her"—four or five voices, plain to hear.

Captain John Stanner, pilot of the Trinity-house.—The schooner was in her proper position. The steamer should have been on the north shore, out of the way of the middle of the river, where ships were coming up.

Cross-examined.—The steamer could have made her progress faster and better, and more out of the way of the shipping, by the north shore. If I were in a sailing vessel, I should keep the mid-channel, and not the south side, and I should expect steamers to go to the north; it would be the steamer's duty to avoid me. It was not proper to put the schooner's helm hard a-port if there was wind, but if calm it did not signify. If the helm had any power, it would.

Re-examined.—If a vessel merely drifts with the tide, the boat's towing only keeps her head up.

Captain Sibley.—The *Mary* was in her proper station. The steamer ought to have been on the north shore. She would have avoided the strength of the tide and the meeting of vessels. If the schooner was under command, she



ought to have had the helm to the starboard. If no wind, it did not signify. In fogs there was seldom much wind.

Captain Butterwick gave similar evidence. The steamer was two 40-horse power, and drew 9 feet; the schooner was 74 tons, and drew 11 feet. She could stop in two seconds, by backing the vessel. The stiller the water, the better she could act.

Cross-examined.—They could ease her in one second, and stop her the next, and then turn her paddles the contrary way. A steamer under weigh can stop in her own length. They should have put their own helm starboard, to keep on the north side. The Mary ought to have put her helm starboard, to keep on the south side.

By the Judge.—Even if the steamer was at full speed, she could stop in twice her own length. At Deptford, she ought only to be at half speed.

Robert Davison, a Trinity pilot.—The Mary was in her proper position. The steamer should have taken outwards from Cuckold's point.

By the Judge.—The steamer could back in a minute.

Edward Smith.—It would take three or four minutes to stop the vessel's way about twice her length. If the tide was against her, she would stop in half the distance. Could hardly stop in one length.

John Crawford, engineer.—Could stop a pair of sixty-horse engines in half a minute, and reverse them in a minute. Has done so when they have been in full power. Reversing the engines stops the headway immediately.

The parties agreed that the damage sustained was 59l. 16s. 9d.

Mr. Serjeant Bompas.—If the company were actually responsible, if the accident took place by their own fault, they would have cheerfully paid the damages. A prejudice exists against steamers, they are always in the wrong, and the company have felt the force of this prejudice in no slight degree, for vessels have even run against them intentionally, to make a market of them. It is true that the men have great command over steamers, but that command has been greatly magnified, so that it was said to-day you may stop them in one moment, and therefore it is meant to be inferred that the control is so perfect that steamers must be in the wrong whenever a collision takes place. It had been contended that putting the helm a-port had no effect, but he would shew that it occasioned the accident, and it would be disproved that Turner, or any one on board the steamer, gave such direction. Had the schooner obeyed the helm, it must have gone to the north shore: he would shew that it did actually do so. We do not deny that the steamer ought to have kept the north shore; we admit that she goes quicker and better there, and that her course is not so much impeded by a contrary tide as by going in the middle; and it was, therefore, very unlikely that an old experienced captain and pilot would go in the middle of the river. We shall clearly shew that she did go on the north side, and that fact appears also from the plaintiff's own witnesses, for the people in the boats on the southern side could see the north bank, and as they could not see two boats' length, they were not two boats' length off. One man that could see the south coast could not see the steamer. It is clear the steamer went aground; that proves also that she was near the north shore. As to the calm, why did the schooner set her sails, if there was no wind at all? It was clear there was some wind, although not much, yet sufficient to give direction to the vessel; that direction was given in the wrong course, and that occasioned the accident. It would also be proved that the captain and pilot of the steamer both cried out, "Helm to the starboard," and that no one said "Port helm." It was clear the schooner was in the wrong by having their helm hard a-port, and the plaintiffs are not entitled to a verdict, unless the steamer was in fault, and alone in fault.



Captain Robert Stranack, examined by Mr. Richards.—Commanded the *Attwood*. Was bound for Calais. Left her moorings at 3 in the morning. It came on foggy. There was a light air, enough to fill the sails. It was not a dense fog. I could see about four times my vessel's length. I was on the larboard paddle-box. Turner, my pilot, was on the other paddle-box. Saw the *Mary* about four vessels' length, 400 feet off. We were near the north shore; not more than 50 feet off; as near as we could safely be. Should have lost time in going in the centre of the river. The schooner was coming on our starboard bow. I ordered the man to put the helm to the starboard, which would turn the vessel's head more to the north shore. The schooner had her sails set. It was too hazy for me to observe whether they caught the wind, which was W.S.W. I hailed her, and said, "Put your helm to starboard." I did not say, "Port," nor did Turner, to my knowledge. I could not see how they put the helm; but if they had put it to the starboard, the two vessels could not have met. I then ordered the engineer to stop us. We were within two vessels' length. He did so. I then gave orders to reverse the engines. They were reversed, and continued so until the head of the *Mary* came directly to us. I judged from her course that her helm was put a-port. She came stem on, at nearly right angles to us, and took a piece out of the afterpart of our foremast. Our bulwarks were knocked away. We went aground. In the hurry I could not tell whether it was not five minutes before we went a-ground. The force of the tide separated the *Mary* from us, and broke her bowsprit. We grounded shortly after the collision. I am not sure it was not immediately. The *Mary* was not in the middle of the river. I should not have been justified in going in the middle. I did not hear the people on board the *Mary* cry out.

Cross-examined.—I am exempted, on the ground of being a Cinque-port man, from having a regular pilot. The schooner was almost as near the north shore as myself. I did not observe she had any boat. I had no sails set. The tide would not be so favourable to the schooner within 50 feet of the north shore as in the mid-channel. Our steamer was two forties. If I had first stopped when I was four lengths off, I think the collision would have been equal.

Re-examined.—Having ordered the helm a-starboard, I immediately gave orders to stop. It would have been the worst management to shift the helm. The consequences would have been fatal. The schooner was coming on with the tide, and if the steamer had stood stock-still the *Mary* would have come upon her.

By the Judge.—If the engines had been immediately stopped, the ship's way would not. I was going at the rate of five miles through the water, but not more than three miles over the ground. Under those circumstances, I repeat, it would take four lengths to stop her in.

Edward Turner, waterman, acted as pilot. The *Attwood* was twice or three times her length from the north shore. She might have gone closer if the weather had been clearer. Hallooed out to the schooner, "Put you helm starboard." Did not say "Port." The wind was W.S.W. Had they put the helm starboard, they must have cleared us. The *Mary* was more in the middle of the stream than we were. It was not proper for them to have put the helm a-port; it was the way to run foul. Heard no person sing out from on board the *Mary*.

Cross-examined.—We had no sail set.

Re-examined.—It is not usual for steamers to set sail before they get to Greenwich, because the velocity of the vessel puts the sails quite back.

By the Judge.—I saw the boat, and two men towing in it.

John Worringham, the carpenter.—The captain gave orders—the helm starboard, then stop, then back; all in succession. They were obeyed. They



were best calculated to avoid the coming together. The hail to the schooner was "Starboard the helm," and not "Port." The schooner ought to have put the helm to starboard.

Richard Lane, seaman, gave similar evidence. There was wind enough to fill the sails.

Captains King, Stephenson, Jones of the Magnet, and Scott, said the course pursued by the Attwood, as detailed by the defendant's witnesses, was the proper course.

Mr. Williams addressed the jury in reply, and contended that the schooner was, as nearly as could be, in the mid-channel, and that the testimony for the plaintiff was in this respect confirmed by Turner, and that it appeared from the defendant's witnesses that the wind, what there was of it, was a side wind, which would have suited the steamer: and yet she did not set her sails, although she was not going at any great velocity, which shewed there was no wind to give steerage-way, and therefore it did not signify at all which way the helm of the schooner was put. It was the duty of the steamer not to have created the emergency. The crisis would not have happened, if she had kept her right course.

Mr. Baron Gurney said, there was an equal probability for the steamer to have kept the north shore, and for the schooner to have gone in the centre of the river, because each of those courses was the best for the respective parties. The question was, whether the schooner was in the mid-channel; also, whether there was wind enough to give steerage-way: if there was not, the putting the helm a-port did not occasion the accident. If the schooner was in any manner to blame, the plaintiff was not entitled to recover; but if the blame rested upon the steamer, and upon the steamer alone, then the plaintiff was entitled to their verdict. He was not aware that any prejudice existed against steamers—he was sure it did not exist with the jury.

The jury retired for about an hour, and then found a verdict for the plaintiff—Damages, 59l. 17s. 9d.

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**CAUTION TO MASTERS OF SHIPS.**—An application was lately made to the Mayor of Hull, by Mr. Cundy, master of the barque Florence, of London, under the following circumstances:—A woman had come on board the vessel, and stated to Mrs. Cundy that she belonged to London, and was a washerwoman, and as she saw the vessel belonged to London, she thought they might favour her with their clothes to wash; she also said her name was Margaret Smith, and that she lived close by the Dock. Mrs. Cundy said she had no objection to let her have the clothes, if she would allow one of the men to go with her to see where she lived;—the woman had no objection, and Mrs. C. told her to call the following morning. In the morning the woman came again, and said she had just been home with a quantity of linen belonging to some ladies, who had made her a present of a child's frock,—at the same time producing a frock. Mrs. Cundy had no doubt of her being a respectable woman, and sent a lad with her with the clothes. They heard nothing further, until Dobson, the constable, called upon them that morning, to inform them that part of the clothes had been pledged.—Dobson, who was present, said the woman Smith was on the town, and had been several times in gaol. Part of the articles had been pledged at a pawnbroker's in Waterhouse-lane.—He had ascertained that Smith and her husband had quitted the town.—The woman obtained about three dozen of clothes, and several of the articles pledged had Mr. Cundy's name upon them at full length.—The Mayor directed Dobson to order the pawnbroker to give up the clothes, and to warn them against taking articles incautiously in pledge.



TABLE XXIII.

*For reducing Russian Sashes to English Fathoms, and English Fathoms to Russian Sashes.*

1 Russian Sash = 1·16714737 English Fathom.

1 English Fathom = 0·85678984 Russian Sash.

Sashes of Fathoms.	English Fathom and Dec. parts.	Russian Sashes and Dec. parts.	Sashes of Fathoms.	English Fathom and Dec. parts.	Russian Sashes and Dec. parts.	Sashes of Fathoms.	English Fathom and Dec. parts.	Russian Sashes and Dec. parts.
1	1·167	0·857	41	47·853	35·128	81	94·539	69·400
2	2·334	1·714	42	49·020	35·985	82	95·706	70·257
3	3·501	2·570	43	50·187	36·842	83	96·873	71·114
4	4·669	3·427	44	51·354	37·699	84	98·040	71·970
5	5·836	4·284	45	52·522	38·556	85	99·208	72·827
6	7·003	5·141	46	53·689	39·412	86	100·375	73·684
7	8·170	5·998	47	54·856	40·269	87	101·542	74·541
8	9·337	6·854	48	56·023	41·126	88	102·709	75·398
9	10·504	7·711	49	57·190	41·983	89	103·876	76·254
10	11·671	8·568	50	58·357	42·839	90	105·043	77·111
11	12·839	9·425	51	59·525	43·696	91	106·210	77·968
12	14·006	10·281	52	60·692	44·553	92	107·378	78·825
13	15·173	11·138	53	61·859	45·410	93	108·545	79·681
14	16·340	11·995	54	63·026	46·267	94	109·712	80·538
15	17·507	12·852	55	64·193	47·123	95	110·879	81·395
16	18·674	13·709	56	65·360	47·980	96	112·046	82·252
17	19·842	14·565	57	66·527	48·837	97	113·213	83·109
18	21·009	15·422	58	67·695	49·694	98	114·380	83·965
19	22·176	16·279	59	68·862	50·551	99	115·548	84·822
20	23·343	17·136	60	70·029	51·407	100	116·715	85·679
21	24·510	17·993	61	71·196	52·264	150	175·072	128·518
22	25·677	18·849	62	72·363	53·121	200	233·429	171·358
23	26·844	19·706	63	73·530	53·978	250	291·787	214·197
24	28·012	20·563	64	74·697	54·835	300	350·144	257·037
25	29·179	21·420	65	75·865	55·691	350	408·502	299·876
26	30·346	22·277	66	77·032	56·548	400	466·859	342·716
27	31·513	23·133	67	78·199	57·405	450	525·216	385·555
28	32·680	23·990	68	79·366	58·262	500	583·574	428·395
29	33·847	24·847	69	80·533	59·118	550	641·931	471·234
30	35·014	25·704	70	81·700	59·975	600	700·288	514·074
31	36·182	26·560	71	82·867	60·832	650	758·646	556·913
32	37·349	27·417	72	84·035	61·689	700	817·003	599·753
33	38·516	28·274	73	85·202	62·546	750	875·361	642·592
34	39·683	29·131	74	86·369	63·402	800	933·718	685·432
35	40·850	29·988	75	87·536	64·259	850	992·075	728·271
36	42·017	30·844	76	88·703	65·116	900	1050·433	771·111
37	43·184	31·701	77	89·870	65·973	950	1108·790	813·950
38	44·352	32·558	78	91·037	66·830	1000	1167·147	856·790
39	45·519	33·415	79	92·205	67·686	1050	1225·515	899·629
40	46·686	34·272	80	93·372	68·543	2000	2334·295	1713·580



TABLE XXIV.

*For reducing Russian versts to English miles, and English miles to Russian versts.*

1 Russian verst = 0·66315191 British statute mile.

1 British statute mile = 1·50794996 Russian verst.

Versts or Miles.	English Miles and Dec. parts.	Russian Versts and Dec. parts.	Versts or Miles.	English Miles and Dec. parts.	Russian Versts and Dec. parts.	Versts or Miles.	English Miles and Dec. parts.	Russian Versts and Dec. parts.
1	0·663	1·508	38	25·200	57·302	75	49·736	113·096
2	1·326	3·016	39	25·863	58·810	76	50·400	114·604
3	1·989	4·524	40	26·526	60·318	77	51·063	116·112
4	2·653	6·032	41	27·189	61·826	78	51·726	117·620
5	3·316	7·540	42	27·852	63·334	79	52·389	119·128
6	3·979	9·048	43	28·516	64·842	80	53·052	120·636
7	4·642	10·556	44	29·179	66·350	81	53·715	122·144
8	5·305	12·064	45	29·842	67·858	82	54·378	123·652
9	5·968	13·572	46	30·505	69·366	83	55·042	125·160
10	6·632	15·080	47	31·168	70·874	84	55·705	126·668
11	7·295	16·587	48	31·831	72·382	85	56·368	128·176
12	7·958	18·095	49	32·494	73·890	86	57·031	129·684
13	8·621	19·603	50	33·158	75·397	87	57·694	131·192
14	9·284	21·111	51	33·821	76·905	88	58·357	132·700
15	9·947	22·619	52	34·484	78·413	89	59·021	134·208
16	10·610	24·127	53	35·147	79·921	90	59·684	135·715
17	11·274	25·635	54	35·810	81·429	91	60·347	136·223
18	11·937	27·143	55	36·473	82·937	92	61·010	137·731
19	12·600	28·651	56	37·137	84·445	93	61·673	140·239
20	13·263	30·159	57	37·800	85·953	94	62·336	141·747
21	13·926	31·667	58	38·463	87·461	95	62·999	143·255
22	14·589	33·175	59	39·126	88·969	96	63·663	144·763
23	15·252	34·683	60	39·789	90·477	97	64·326	146·271
24	15·916	36·191	61	40·452	91·985	98	64·989	147·779
25	16·579	37·699	62	41·115	93·493	99	65·652	149·287
26	17·242	39·207	63	41·779	95·001	100	66·315	150·795
27	17·905	40·715	64	42·442	96·509	200	132·630	301·590
28	18·568	42·223	65	43·115	98·017	300	198·946	452·385
29	19·231	43·731	66	43·778	99·525	400	265·261	603·180
30	19·895	45·238	67	44·431	101·033	500	331·576	753·975
31	20·558	46·746	68	45·094	102·541	600	397·891	904·770
32	21·221	48·254	69	45·757	104·049	700	464·206	1055·565
33	21·884	49·762	70	46·421	105·556	800	530·522	1206·360
34	22·547	51·270	71	47·084	107·064	900	596·837	1357·155
35	23·210	52·778	72	47·747	108·572	1000	663·152	1507·950
36	23·873	54·286	73	48·410	110·080	2000	1326·304	3015·900
37	24·537	55·794	74	49·073	111·588	3000	1989·456	4523·850



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## ERRATA.

Page.	Line.	
130	. .	In four places, and page 131, line 4, "Cocobano" to be "Corrobana."
670	10	From bottom, for "passengers," read "passages."
322	14	"Itemerica" to be "Itamaraca."
	19	"Powel Marello" to be "Paô Amarello."
	3	From the bottom, "Fort Broom" to be "Fort Bruno."
323	5	"Fort Pico" to be "Fort Picaô."
	6	"Poco" to be "Poço," (or Well.)
	17	"Pica" to be "Picaô"
	19	From the bottom, after cross, insert "Crus de Patram."
	18	From the bottom, "Santa Mara" to be "S. Amaro."
	15	From the bottom, "Fort Bane" to be "Fort Burâco."
324	6	"Sant Antonia" to be "Santo Antonio."
	18	"Fort Broom" to be "Fort Bruno."
325	16	From the bottom, "Pico" to be "Picaô."
	12	From the bottom, "Fort Brown" to be "Fort Bruno."
458		After the words "following inscription," for "Tella," read "Sella."
641	26	For "3 $\frac{1}{2}$ ," read "2 $\frac{1}{2}$ ."
656	7	From bottom, for "Underhill," read "Underwood."
657	17	From bottom, for "1734," read 1834."
677	29	For "projecting points, head lands," read "projecting points and head lands."
679	34	For "natural skill," read "nautical skill."
681	8	For "within a solid or liquid form," read "whether in a solid or liquid form."
687	20	For "seizings," read "seams."
689	21	For "also a," read "also added a."
690	2	For "account of the ship," read "account of the loss of the ship."















